Gaza Rapid WASH Assessment

Household Survey for Access to WASH Services

September 2024

GAZA STRIP

WASH Cluster
State of Palestine

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ABBREVIATION & ACRONYMS

AoR	Area of Responsibility (for UNRWA)
CC	Cluster Coordinator
CMWU	Coastal Municipalities Water Utilities
CLA	Cluster Lead Agency
FST	Field Support Team
GIS	Geospatial Information Systems (GIS)
GWC	Global WASH Cluster
HH	Household
IASC	Inter-Agency Standing Committee
IM	Information Management
SAG	Strategic Advisory Group
LPPD	Liters per person per day
UN	United Nations
INGO	International Non-Governmental Organiztion
UNICEF	United Nations Children's Fund
UNRWA	United Nations Relief and Works Agency for Palestine Refugees in the Near East
WASH	Water, Sanitation and Hygiene
WFP	World Food Programme

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1 EXECUTIVE SUMMARY

In August 2024, a household-level WASH needs assessment was carried out. The goal was to perform a thorough and evidence-based evaluation, offering a representative analysis of WASH services available to the population across various Governorates and different types of shelters and settlements.

A year of war in the Gaza Strip has led to unprecedented levels of destruction and significant loss of lives. Nearly 90% of the population has been displaced, with many families forced to relocate multiple times. Recent assessments indicate that 72%[1] to 84.6% [2] of these facilities are either partially damaged or destroyed, with similar damage to distribution networks. The extensive damage has drastically reduced operational services, left no functional wastewater treatment plants and halting solid waste management due to inaccessible landfills. Remaining facilities depend on backup generators, which suffer from unreliable fuel supplies and a lack of necessary hardware and spare parts. Additionally, only a minimal amount of hygiene items and kits are reaching the affected population [3] .

Alongside the physical destruction approximately 90% of the population has been displaced from their homes. Most families have been displaced multiple times as successive waves of military operations encroach into the Gaza Strip. Displacements can be categorized into massive displacement (Rafah incursion in early May 2024 impacted 1.5 million people) and numerous smaller displacements impacting targeted locations (In August 14 evacuation orders affected 55 neighborhoods). Each displacement results in a loss of services and restart of the humanitarian response with different resources in the new locations.

Prior to the crisis, the Gaza Strip had robust WASH services, providing an estimated 85 liters of water per person per day and connecting 94.7% [4] of the population to piped water networks and 73%[5] to sewer networks and six wastewater treatment plants Solid waste managed through Municipal and UNRWA collection services transferred waste to two final ‘safe’ landfill locations [6].

Given the complexities of data collection and service delivery, along with the fluctuating levels of damage and population movements, it has been challenging to accurately assess the population’s status for humanitarian WASH service delivery. To support the emergency response, the WASH Cluster partners have conducted a joint needs assessment This assessment aimed to clarify household-level access to WASH services and needs, providing valuable information for programming and donors. Sixteen WASH Cluster partners were trained and participated in the data collection, conducting 2,477 household surveys and 474 key informant interviews to identify current access levels, the most pressing needs, and potential future developments.

The surveys made an important distinction between drinking water and domestic water access, which is crucial in Gaza due to the high salinity of the groundwater. They also covered access to and perceptions of risks in using latrines, the availability of various hygiene items, the incidence of household-level waterborne illnesses, and the ongoing costs for WASH items, among other factors. The assessment successfully met its objectives, providing clear information on household-level access to services and highlighting differences between populations living in various shelter types and Governorates.

1 UNOSAT – 9th Gaza Strip WASH Facilities Comprehensive Damage Assessment – September 2024

2 IPSOS – Gaza Damage Assessment Monthly Report August 2024 – 11th Report

3 WASH Cluster Supply Chain Bottlenecks Analysis.

4 Multi-Sector Needs Assessments (MSNA) 2022

5 Water Sector Regulatory Council (WSRC), Annual Report 2023

Key findings and messages from this assessment include:

- The deteriorating environmental and WASH conditions are adversely affecting public health. Some communities are experiencing higher rates of WASH-related illnesses, such as skin infections, acute watery diarrhea, and Hepatitis A. Reports indicate that one-fifth of the population fell ill in the past two weeks, with nearly a quarter (24.4%) of children under five years old affected. Among these young children, common WASH-related illnesses included acute watery diarrhea (8.7%) and skin infections (18.3%).
- 1.4 million people lack adequate drinking water: Nearly two-thirds of households (62.4%) have less than the recommended 6 liters per person per day for drinking and cooking.
- Over 1 million people face a general water shortage: Nearly half of the population does not have the minimum recommended 15 liters per person per day for drinking, cooking, and basic hygiene.
- Approximately 1.4 million people are purchasing drinking water to supplement their daily basic needs, in an environment where income-generating activities are scarce. 67.9% of assessed households reported buying drinking water, spending an average of 46 Shekels weekly. Additionally, 24.5% of households purchased domestic water, costing them 55 Shekels per week.
- The primary challenges related to drinking water include insufficient insufficient water collection and storage containers (44,3%; 38.2%), limited water availability (43.7%), high water costs (36.9%), and the distance to distribution points (30.6%).
- Urgent action is required to improve water availability at the household level, there is a need of better distribution systems and sustained water production.
- Approximately 1.4 million people face unsafe conditions when accessing sanitation facilities. Significant issues have been reported with existing facilities, including a lack of perceived safety (66.3%), widespread hygiene deficiencies (48.3%), and broken, full, or non-functional facilities (35.4%).
- 1 million people are at risk of sanitation-related threats in/near their premises. Over half of the population reports some exposure to environmental health threats within 10 meters of their shelter. These threats include rodents and pests (76%), trash and solid waste (53.8%), sewage from broken sewer lines, outlets, and toilets (45.8%), and human waste/feces (34.1%).
- Immediate measures are necessary to enhance sanitation and solid waste management efforts at both the community and infrastructure levels.
- 1.5 million people lack access to soap at home at the time of the assessment, making it difficult for them to wash their hands and effectively protect themselves from communicable diseases.
- Despite limited income-generating opportunities, households are unsustainably spending 322 NLS per month to access WASH services.
- There is a need to enhance the availability and accessibility of hygiene kits and items through continued advocacy, funding, and/or market-based interventions such as cash-based initiatives

To improve the identification of gaps in WASH systems and services and to evaluate the sustainability of communal coping mechanisms, the WASH sector needs to supplement this household survey with additional technical and site level assessments to inform their response programming. Given the volatile situation, it is crucial to continuously collect and analyze data to monitor the WASH needs and prioritize the response. To this end the WASH cluster has developed and endorsed an assessment strategy to ensure ongoing support for the most vulnerable populations in the Gaza Strip.

2 BACKGROUND AND RATIONALE

A year of war in the Gaza Strip has led to unprecedented levels of destruction and significant loss of lives. Nearly 90% of the population has been displaced, with many families forced to relocate multiple times. The conflict has severely impacted WASH infrastructure, with recent reports indicating that 72% to 84.6%[1] of these facilities, including desalination plants, water wells, and piped networks, have been either destroyed or partially damaged. The solid waste management system has also suffered greatly, with loss of access and damage to landfills and critical assets such as vehicles and equipment. None of the wastewater treatment plants are currently functional. There is an urgent need to repair critical infrastructure and enhance WASH services for the affected populations. However, significant information gaps remain regarding the severity and scale of household needs and WASH service gaps.

Over 40 WASH cluster partners are working in the Gaza Strip to address the urgent WASH needs. However, the prioritization of resource allocation and the overall status of the WASH situation at the household level remained unclear. The massive displacement in Rafah in May necessitated the reprogramming of WASH services to new locations, resulting in the loss of some assets, such as the pit latrines built since January in Rafah Al Mawasi. In early July, the WASH cluster developed an assessment strategy to better inform decision-makers and responders, enabling them to mobilize resources according to need. Consequently, the WASH cluster partners decided to enhance their analysis of the household situation. Sixteen partners contributed to data collection, conducting over 2,400 surveys across the Gaza Strip and various types of shelters to understand the factors that could limit or enhance access to services.

1 IPSOS – Gaza Damage Assessment Monthly Report August 2024 – 11th Report

3 METHODOLOGY

3.1 Methodology Overview and Target Populations

The Rapid WASH Assessment consisted of two main data collection tools: a household survey and a key informant interview. Details on the consultative process for this Rapid WASH Assessment can be found in Annex 1. The survey design for the household tool varied depending on which of the five target populations were assessed during the survey. These groups and their sampling strategies are described in more detail below.

- **Makeshift Sites in the South** - This population is defined by those living in makeshift or temporary shelters in the Southern Governorates and that were identifiable by satellite imagery. The site extents of makeshift and scattered shelters in Khan Younis and Deir-al-Balah were identified with satellite imagery and grouped into 39 enumeration areas based on similar characteristics reported in consultations with local actors with expert judgement. Within each enumeration area, 12 GPS points were randomly generated within the known site extents and the three closest households to each of the GPS points were selected for interview.
- **UNRWA Shelters** - This population is defined by those living in accessible UNRWA shelters at the time of the assessment. Each UNRWA AoR was treated as a survey strata, with the North Middle, South Middle, and Khan Younis AoRs having a simple random sampling design and all accessible sites being selected, and the sample households distributed proportionately across the sites. The Northern AoR (Gaza and North Gaza) was treated as one survey strata and used a cluster sampling design and sites selected using probability proportional to size (PPS) sampling. Systematic random sampling was used for household selection within each site. Sites drawn from updated UNRWA list of designated shelters.
- **Non-UNRWA Shelters** - This population is defined by those living in accessible schools or shelters not managed by UNRWA at the time of the assessment. In the South, 10 sites per governorate were selected using PPS sampling. In the North, five sites were purposively selected per Governorate based on consultations with partners on spatial distribution and accessibility. Systematic random sampling was used for household selection within each site.
- **Populations Living Outside of Shelters in the North** - This population is defined by those living in the Northern Governorates of Gaza and North Gaza outside of UNRWA or Non-UNRWA managed sites, such as in makeshift sites or buildings. A variation of time-location sampling[2] was utilized to screen and select out of shelter populations accessing three WFP food distribution sites on days of distribution. Data collection was done for 5 days per site, with 10 interviews per day. 2 sites were in Gaza Governorate, and one in North Gaza.
- **Hard-to-Reach Populations in the South** - This population is defined by those living in areas of Southern Governorates that are in areas which require coordinated movements with Israeli authorities and which humanitarian actors and service providers have limited access. Locations were selected purposively from known difficult to reach populations and visited with support from OCHA and UNICEF-led coordination visits. The closest households and key informant interviews to the assessment site were visited given the limited time on the field.

Key informant interviews were conducted with site/community leaders at Non-UNRWA Shelters, and at the makeshift or scattered sites at sampled GPS locations, if there was a community representative that has responsibility for the area. For households, two different definitions were used depending on the population group assessed in order to capture individuals that may be sharing water:

2 Time-Location (Time-Space) Sampling. (Basic explaining resource) https://cenhtro.uga.edu/_resources/documents/TLS%201.pdf

TABLE 1: HOUSEHOLD DEFINITIONS

Makeshift and Out of Shelter Populations	UNRWA and Non-UNRWA Populations
A group of people who share common resources such as water, are living together in the same space, and have the same head of household	*All persons and families who live and share a common space, such as a room or temporary shelter, including any men from these families who may sleep outside the room at night. These people may or may not share common resources such as food and water. These people may be part of one or more families.*

3.2 Main and Specific Objectives

To assess the severity of humanitarian WASH needs and key service gaps for displaced populations within municipalities of North Gaza, Gaza, Deir Al-Balah, Khan Younis, and Rafah governorates.

TABLE 2: SPECIFIC ASSESSMENT OBJECTIVES

SPECIFIC OBJECTIVES PER TOOL	
Rapid WASH Household Tool	**Rapid WASH Key Informant Tool**
• To understand the quantity of drinking water consumed by the assessed populations. *• To understand the quantity of domestic water used by the assessed population.* *• To understand the main sources of water used for drinking and domestic purposes in the assessed population.* *• To understand the average and median time in minutes to fetch drinking and domestic water including travel, queuing, and return time.* *• To assess the average and median cost of drinking and domestic water expenses in the past 7 days in the assessed population.* *• To assess the types of water treatment methods that households are utilizing for their drinking water.* *• To assess the level of latrine coverage in the assessed population.* *• To understand the main barriers for latrine usage.* *• To assess the level and type of environmental sanitation problems that the population is facing* *• To understand the level of soap ownership in the assessed population.* *• To assess the average and median cost of WASH NFIs (soap, shampoo, sanitary pads, diapers, water containers) in the assessed population.* *• To understand the level of humanitarian assistance received in the past 14 days by sector in the assessed population.* *• To understand the top three self-reported priority needs in the assessed population.* *• To estimate the two-week period prevalence of common symptoms in the population, in particular WASH-related symptoms (acute watery diarrhoea, bloody diarrhoea, skin and eye infections)*	*• To understand the main sources of water used for drinking and domestic purposes in the assessed population.* *• To understand the sufficiency of drinking and domestic water in the assessed population.* *• To understand the main barriers to accessing sufficient drinking and domestic water.* *• To understand the source and modality of provision for water trucking and donkey cart delivery at sites.* *• To understand the damage and repair needs of water networks utilized at sites.* *• To assess the capacity for drinking and domestic water storage at sites.* *• To assess the average and median cost of drinking and domestic water expenses in the past 7 days in the assessed population.* *• To assess the level of latrine coverage in the assessed population.* *• To understand the main barriers for latrine usage.* *• To assess the level and type of environmental sanitation problems that the population is facing* *• To understand the main mechanisms for solid waste disposal at sites.* *• To understand the level of humanitarian assistance received in the past 30 days by sector in the assessed population.* *• To understand the top three self-reported priority needs in the assessed population.*

3.3 Sample Size Calculations

Approximate sample sizes per population group are shown below and their justification, with a total target of 2,477 households. More detailed calculations and justificatoins can be found in Annex 2.

TABLE 3: SAMPLE SIZE PER POPULATION GROUP

Population Group	Description Sampling	Sample Size
Makeshift Tents in the South	*39 spatial enumeration areas, with 12 GPS points per area and 3 households per GPS*	*1,440 HHs*
UNRWA Shelters in South	*3 UNRWA AoRs and 150 households per AoR*	*450 HHs*
UNRWA Shelters in North	*25 schools/sites selected across North Gaza and Gaza with 8 house-holdss per site*	*216 HHs*
Non-UNRWA Shelters in South	*10 schools/sites selected each in Khan Younis and Deir-al-Balah with 10 households per site*	*200 HHs*
Non-UNRWA Shelters in North	*5 schools/Sites selected in Gaza and North Gaza with 8 houesholds per site*	*80 HHs*
Outside Shelters in North	*10 households per day at 3 WFP distribution sites over 5 days*	*120 HHs*
Hard-to-Reach in South	*Opportunistic data collection during the period*	*NA*

3.4 Estimating Liters Per Person Per Day (LPPD)

As per Sphere and global level recommendations, the core indicator for the assessment was liters per person per day for drinking water, domestic water and all water, collected through a series of questions at the household level. LPPD is typically a challenging indicator to measure as it is dependent on several variables, and had additional complexities in the Gaza concept. Formative work and consultations showed that challenges included that households often relied on multiple water sources, had irregular (non-daily) collection from sources, differentiated between drinking and domestic water sources, may or may not have water containers in the household, may use water at the point of collection such as the sea or a tap, and may share water amongst people not necessarily of their own household. In order to estimate liters per person per day in the Rapid WASH tool, the following steps were taken:

1. **Listing water containers** - Enumerators would list any water containers used for water collection or storage within the past 7 days.
2. **Listing water sources** - Enumerators would list the three most important drinking water sources and three most important domestic water sources within the past 7 days. For each source, the respondent would be asked how many days in the past 7 days they collected water from that source.
3. **Count number of fillings per source per container** - For each water source, the enumerator would ask if each container was used to collect or store water from it, and if so how many times it was filled the LAST DAY that water was collected from that source.
4. **Calculate Correction Factor** - A correction factor (K) was calculated for each source by dividing the number of days water was collected from a source by 7 days, to account for non-daily sources.
5. **Calculate LPPD** - For each source, the total water collected was summed and multiplied by K to estimate the total daily water coming into the household on average. This was then divided by the number of people in the household (as reported in-line with the household definitions) to determine LPPD per source.
6. **Aggregate LPPD at the household level** - The LPPD for all drinking water sources was added together for a total drinking water LPPD, the same for domestic sources. Total LPPD was summed from the total drinking and domestic water LPPD estimates for the household.
7. **Treating Outliers** - Household with LPPD estimates equal to 0 or greater than 1000 were flagged as poor

data quality and removed from analysis. Additionally, LPPD estimated were log transformed and outliers identified that were +/-3 standard deviations away from the mean log of LPPD and removed from analysis. If a drinking LPPD or domestic LPPD was removed from analysis for any reason, then the total LPPD was not calculated.

8. **Per recommendations aligned with SPHERE Standards** 6 liters of drinking/cooking water per person per day, 9 liters of domestic water per person per day, and 15 liters of all water per person per day were used as minimum standard thresholds for analysis.

3.5 Training and Primary Data Collection

Several one-day training opportunities were made available from July 30th to August 1st, as well as several follow up remote ad hoc trainings during the first week of August to partners who were unable to attend for logistical reasons. The Protection Cluster provided facilitation on protection considerations during data collection. WASH Cluster partner organizations collected data using KoboCollect smartphone in-line with provided protocols and technical support was provided to partners throughout by the Gaza WASH Cluster Assessment Specialist. WASH Cluster partners were generally asked to implement data colleciton only in their own programmatic areas to avoid unnecessary movements, which was determiend by a mapping activity with partners. WASH Cluster partners were encouraged to form teams of two to three staff for data collection for working in makeshift tent sites. UNRWA managed all data collection within UNRWA managed locations.

3.6 Data Processing and Analysis

Data entry was done directly with KoboCollect smartphone app and data to the Gaza WASH Cluster Kobo Server. Data consolidation and cleaning was be done in R v.4.4.0, with changes to raw data tracked in a cleaning log. Data cleaning included basic logical checks, cleaning other entry responses, and checking for outliers on numerical variables. Survey weights were applied for aggregating crisis and governorate levels based on available population data. Makeshift tents in the South results were weighted within enumeration areas using estimates of the household density at each point, and between enumeration areas based on the areas of site extents.

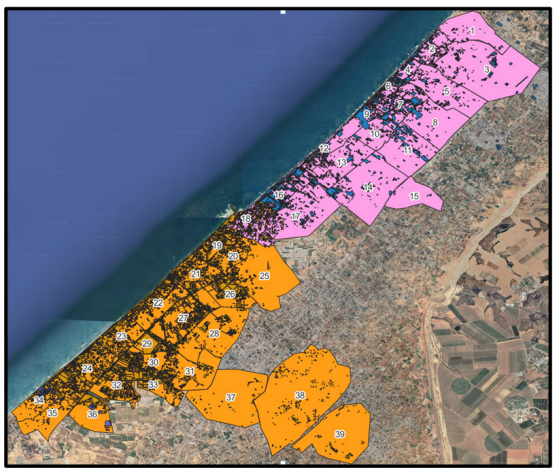
4 RESULTS

Data collection occured from August 6th to September 12th with roughly 70% of the initial target households being acheived, and a consent rate of 98%. Findings can be considered representative of makeshift populations in the South, UNRWA and Non-UNRWA Shelter populations, but only somewhat representative for populations living outside of shelters in the North and Hard-to-Reach populations in the South which relied on purposive or non-probabilistic sampling methods. Several challenges occcured during data collection which resulted in this gap including ongoing hostilities and evacuation orders which affected enumeration areas, lack of partner capacity to complete target coverage in some areas, or areas outside the humanitarian zone being unable to cover with partners or coordinate movements due to lack of clearances. As a result there is limited coverage and representativeness for areas such as Central Zuweida, areas outside the humanitarian zone such as UNRWA and Non-UNRWA sites in Al Bureij, makeshift tent communities in Rafah, or other areas outside the humanitarian zone. Due to sampling limitations, results are not representative of populations living in buildings in the South. Spatial groupings and coverage of the makeshift tents in the South is demonstrated in Red in the heat map in the maps below, and the coverage of key informant interviews in blue.

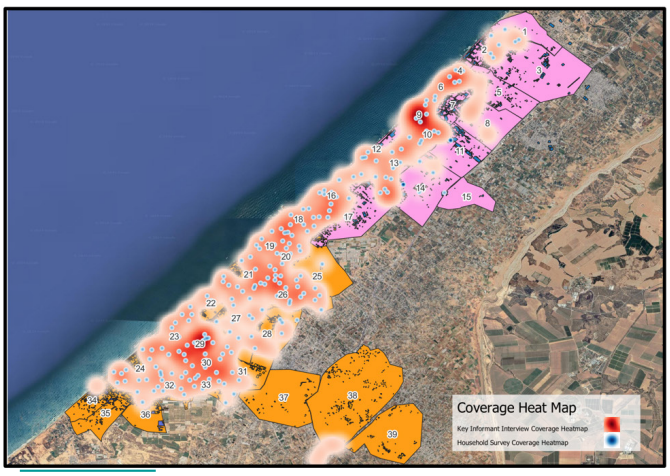
TABLE 4: SUMMARY OF ACHIEVED RESULTS

Governorate	Population Group	Target Sample (HH)	Sample Achieved (HH)	% Achieved (HH)	KIIs Achieved
Overall	All	2,477	1,741	70%	---
North Gaza	All	210	237	113%	---
	UNRWA Shelters	120	143	119%	---
	Non-UNRWA Shelters	50	47	94%	---
	Populations Outside Shelters	40	47	118%	---
Gaza	All	234	172	74%	---
	UNRWA Shelters	104	66	63%	---
	Non-UNRWA Shelters	50	22	44%	---
	Populations Outside Shelters	80	84	105%	---
Deir-al-Balah	All	1,012	610	60%	81
	UNRWA Shelters	300	224	75%	---
	Non-UNRWA Shelters	100	69	69%	9
	Makeshift Tents in South	612	296	48%	65
	Hard-to-Reach (Nuseirat)	---	21	---	7
Khan Younis	All	1,006	712	71%	156
	UNRWA Shelters	150	98	65%	---
	Non-UNRWA Shelters	100	59	59%	5
	Makeshift Tents in South	756	540	71%	149
	Hard-to-Reach (Bani Suheila)	---	15	---	2
Rafah	Hard-to-Reach	---	10	---	---

MAP 1: SPATIAL GROUPINGS OF MAKESHIFT TENT ENUMERATION AREAS IN SOUTH



MAP 2: HOUSEHOLD AND KEY INFORMANT COVERAGE OF MAKESHIFT TENTS IN SOUTH



4.1 Demographics

Approximately one-third of interviews were conducted with female respondents (36%), despite the overwhelming majority of households having male heads of household. Overall, households had an average of 7.2 people per household with the highest being in UNRWA and Non-UNRWA Shelters (7.9 people) and the lowest populations living outside of shelters in the North (5.1). UNRWA and Non-UNRWA Shelters were intended to have a seperate household definition counting everyone living in the same room of a shelter as a household due to water sharing amongst residents, however it was observed there may have been some confusion amongst enumerators on this definition, likely under-estimating the household size per the definition.

As an observation, Populations living outside of shelters in the North on average reported traveling nearly half an hour (27.8 minutes) or nearly 2 kilometers (1970 meters) to reach the food distribution site where they were interviewed.

TABLE 5: SUMMARY OF DEMOGRAPHICS BY POPULATION GROUP AND GOVERNORATE

Indicator	Overall	Makeshift Sites in the South	Populations Outside Shelters (North)	Hard to Reach in South	UNRWA Shelters	Non-UNRWA Shelters
Average Household Size	**7.2**	6.8	5.1	6.7	7.9	7.9
Sex of Respondent (Male)	**64%**	70.5%	73.3%	69.6%	49.9%	67%
Sex of Respondent (Female)	**36%**	29.5%	26.7%	30.4%	50.1%	33%
Average Age of Respondent (years)	**41.9**	42.7	38.3	45.0	40.9	43.2
Sex of Head of Household (Male)	**79%**	87%	80.9%	82.6%	65.7%	79.2%
Sex of Head of Household (Female)	**21%**	13%	19.1%	17.4%	34.3%	20.8%
Average Age of Household (years)	**39.8**	44.6	39.8	45.8	43.2	44.9
% households displaced current location (<1 months)	**10%**	9.7%	35.9%	15.6%	6.3%	2%
% households displaced current location (1 to < 3 months)	**16.8%**	22.9%	26%	15.6%	7%	10.7%
% households displaced current location (3 to < 6 months)	**43.7%**	47%	10.7%	55.6%	21.5%	28.6%
% households displaced current location (6 to < 12 months)	**38.2%**	19.6%	27.5%	13.3%	65.2%	58.7%
Average Months Displaced in Current Location	**5.1**	3.9	3.7	3.8	6.9	6.4
Average Time to Distribution Point (minutes)			27.8			
Average Distance to Distribution Point (meters)			1970			

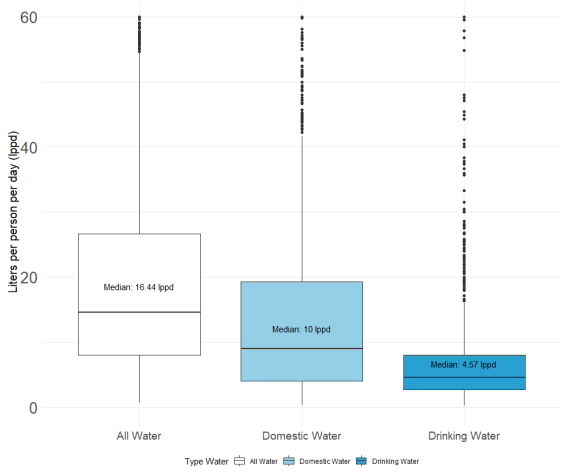
Indicator	Overall	North Gaza	Gaza	Deir-al-Balah	Khan Younis	Rafah
Average Household Size	**7.2**					
Sex of Respondent (Male)	**64%**	60.8%	66.3%	**60.2%**	67.7%	70%
Sex of Respondent (Female)	**36%**	39.2%	33.7%	**39.8%**	32.3%	30%
Average Age of Respondent (years)	**41.9**	39.3	40.3	42	43.2	43.9
Sex of Head of Household (Male)	**79%**	72.6%	74.4%	**74.4%**	86.1%	**90%**
Sex of Head of Household (Female)	**21%**	27.4%	25.6%	**25.6%**	13.9%	**10%**
Average Age of Household (years)	**39.8**	41.7	42.0	44.3	44.7	46.6
% households displaced current location (<1 months)	**10%**	19.1%	8.8%	1.7%	14.3%	10%
% households displaced current location (1 to < 3 months)	**16.8%**	10.9%	21.1%	9.5%	23.8%	20%
% households displaced current location (3 to < 6 months)	**43.7%**	12.6%	18.1%	28.7%	50.8%	50%
% households displaced current location (6 to < 12 months)	**38.2%**	57.4%	52%	59.1%	11.1%	20%
Average Months Displaced in Current Location	**5.1**	5.8	5.7	6.7	3.3	3.9
Average Time to Distribution Point (minutes)	27.8	22.3	30.5			
Average Distance to Distribution Point (meters)	1970	1251	2334			

4.2 Water

Overall, significant portions of the population are not receiving minimum amounts of drinking and domestic water for their basic needs.

- More than half of assessed households (64.2%) reported receiving less than 6 liters per person per day (LPPD) of drinking/cooking water
- Almost half received less than 9 LPPD of domestic water (46.4%).
- Overall, nearly half (46.5%) reported receving less than 15 LPPD of all water. Previous assessments from February reported populations previously had only 2 LPPD.

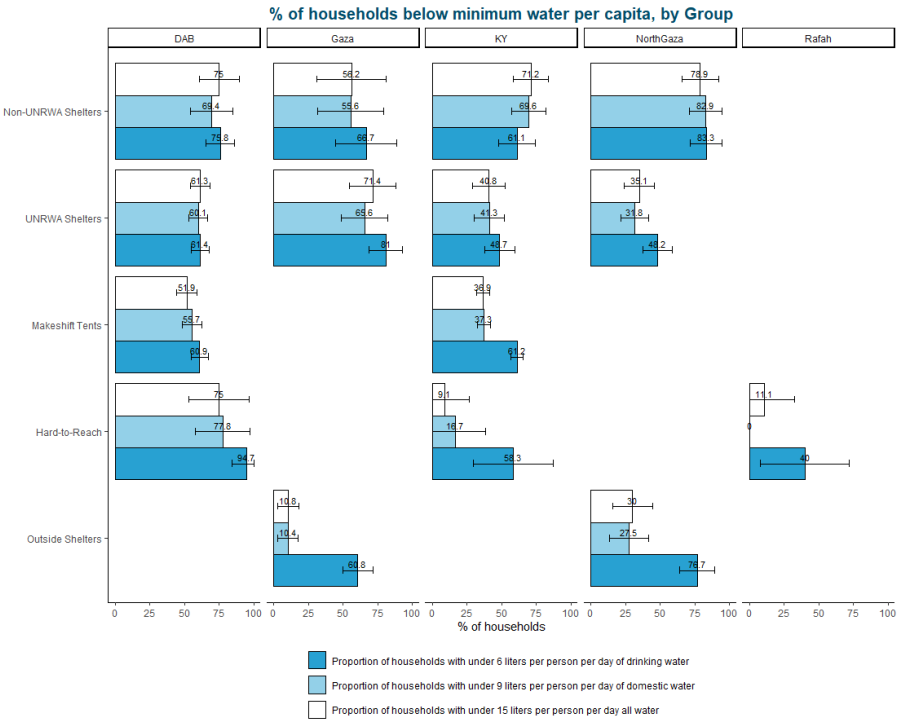
FIGURE 1: LITERS PER PERSON PER DAY FOR ALL, DRINKING AND DOMESTIC WATER



As recommended by Sphere guidelines, the household survey account multiple sources of water for drinking and domestic water (see explanation in the methodology). Water consumption disparities were greater in some geographic and population groups compared to others.

- Populations living in UNRWA Shelters in Gaza Governorate, Hard-to-Reach populations in Nuseirat, and generally populations living in Non-UNRWA Shelters in any Governorate appeared to have higher proportions of households with less than 6 LPPD drinking/cooking water compared to Gaza Strip overall.
- Additionally, populations living in Deir-al-Balah Governorate generally, UNRWA Shelters in Gaza Governorate, and Non-UNRWA Shelters in any Governorate appeared to have greater proportions of households with less than 9 LPPD domestic water compared to Gaza Strip overall.

FIGURE 2: PROPORTION OF ASSESSED HOUSEHOLDS WITH LESS THAN MINIMUM QUANTITY OF ALL, DRINKING AND DOMESTIC WATER, BY POPULATION GROUP AND GOVERNORATE



Barriers to Sufficient Water

There are significant efforts on water production from the Coastal Municipalities Water Utility (CMWU), UNICEF, and other partners with approximately 100-114 thousands cubic meters of drinking and domestic water produced per day according to August estimates. However it should be noted that CMWU estimate 50% of water is lost through leaks. Additionally safe and equitable water distribution mechanisms are limited across the Gaza Strip. This study findings suggest that in addition to the need to increase production efforts, there are issues of distribution, storage, cost, and other barriers that are limiting the population's ability to access sufficient water.

Household respondents were asked about the top three main barriers to accessing sufficient drinking and domestic water, with key findings including:

- For drinking water, the most frequently reported barriers were lack of water collection (44.3%) and storage containers (38.2%), lack of availability of water (43.7%), expensive cost of water (36.9%), and distance to distribution points (30.6%). In particular, populations with less than 6 LPPD of drinking/cooking water were more likely to report lack of water collection containers as a barrier (49.9%)compared to populations with more than 6 LPPD drinking/cooking water (41.5%).
- Additionally, populations with less than 6 LPPD drinking/cooking water in hard-to-reach areas of the South more frequently reported lack of water at distribution points and distance to distribution points as major barriers, possibly related to the limited access of humanitarian actors to these areas.
- Similarly for domestic water, lack of collection (45.7%) and storage (43.4%) containers, and lack of availability of water (46.1%) and distance to distribution points (23.5%) were frequently mentioned barriers, in addition to poor quality of domestic water (27.9%) which reportedly was causing illness by some respondents.
- With Hard-to-Reach populations in the South, domestic water availability was more frequently reported by respondents with less than 9 LPPD domestic water (62.5%) compared to greater than 9 LPPD (30.4%).
- For populations living outside of shelters in the North, Hard-to-Reach populations in the South, and makeshift tent populations in the South, lack of water containers was more frequrently reported as a barrier compared for those with under 9 LPPD (66.7%, 56.2%, 51.7% resp.) compared to greater than 9 LPPD (41.6%, 26.1%, 41.8% resp.). Lack of storage containers was also an important barrier reported by populations outside of shelters in the North with less than 9 LPPD domestic water (66.7%) compared to those with at least 9 LPPD (48.3%).
- For populations living in non UNRWA shelters, limited quanity of water in the water distribution points (60%) and lack of water containers (42%) was more frequently reportd as a barier to access drinking water. In Gaza, populations residing in UNRWA shelters reported the same two barriers to access drinking water (39.4% each). The populations in Deir-al-Balah reported the same barriers to access domestic water (43% and 42.8% respectively for each barrier).

FIGURE 3: PROPORTION OF ASSESSED HOUSEHOLDS REPORTING BARRIERS TO SUFFICIENT DRINKING AND DOMESTIC WATER

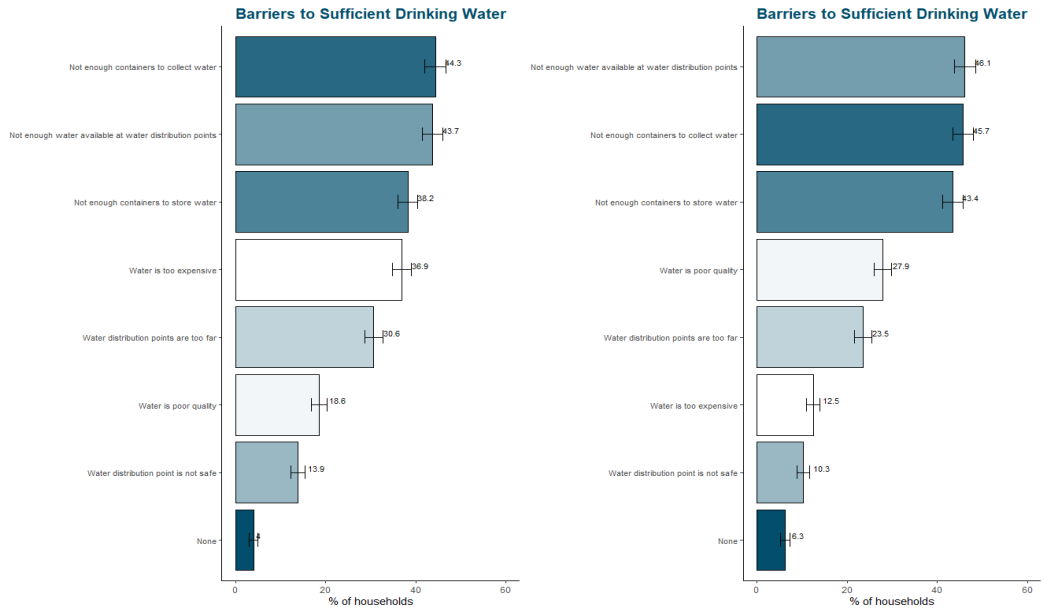


FIGURE 4: PROPORTION OF ASSESSED HOUSEHOLDS BY SELF-REPORTED BARRIERS TO SUFFICIENT DRINKING WATER, BY POPULATION GROUP

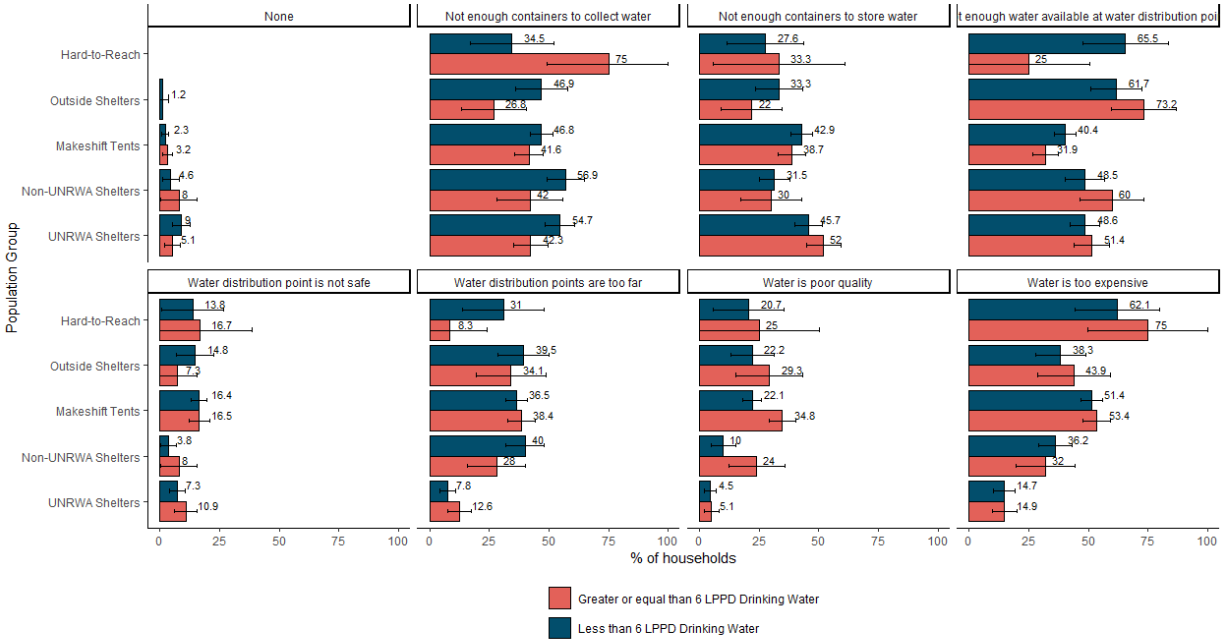
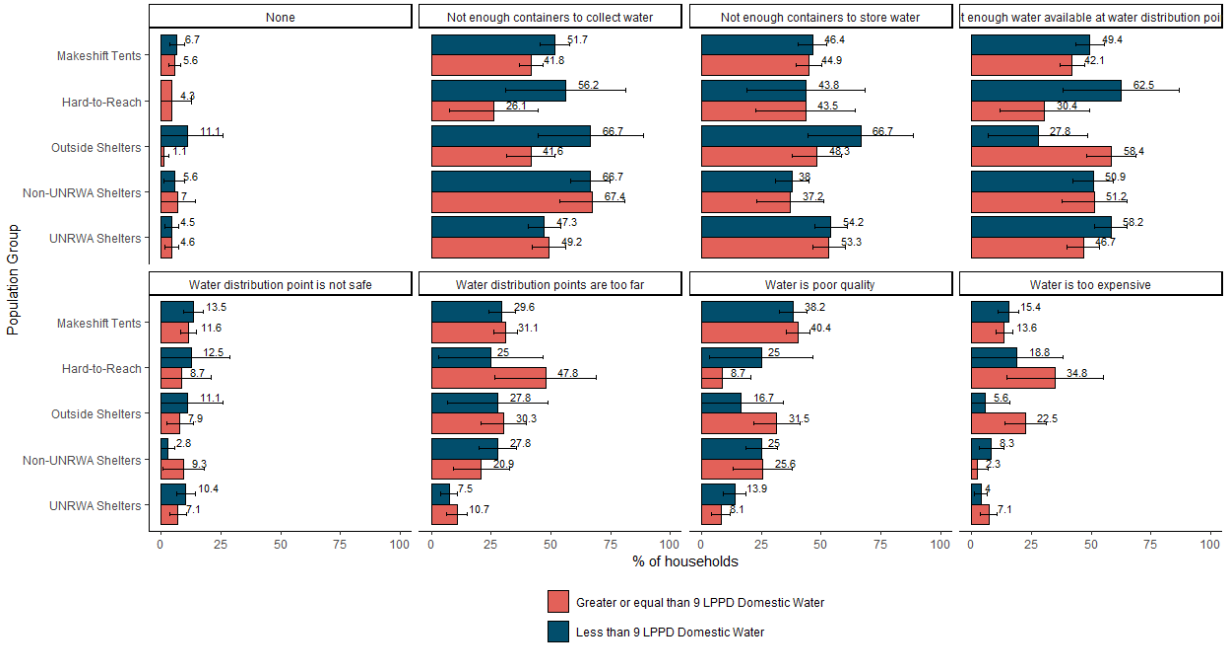
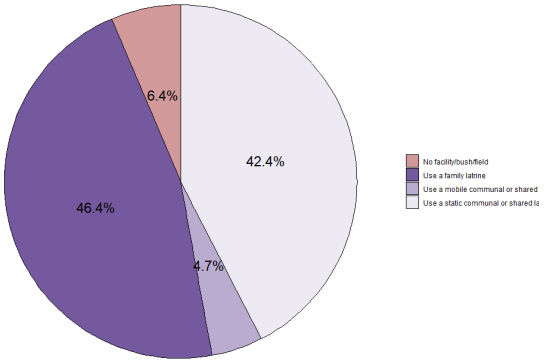


FIGURE 5: PROPORTION OF ASSESSED HOUSEHOLDS BY SELF-REPORTED BARRIERS TO SUFFICIENT DOMESTIC WATER, BY POPULATION GROUP



4.3 Sanitation

FIGURE 6: PROPORTION OF ASSESSED HOUSEHOLDS BY MAIN TYPE OF SANITATION FACILITY REPORTED, OVERALL



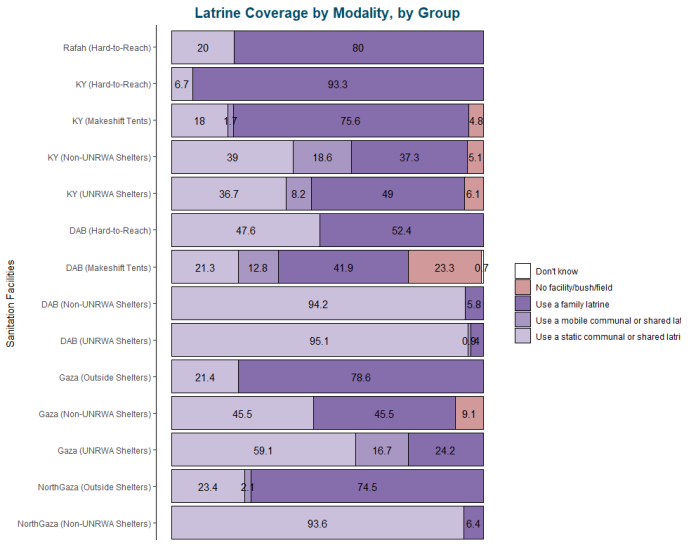
The vast majority of households (93.4%) reported to have some toilet access[3] (where household members went to defecate self-reported by respondent) at the time of the assessment with the most frequently reported modalities being family specific toilets (46.4%), communal static toilets (42.4%), and lastly communal mobile toilets (4.7%). Key findings include:

- A small proportion of households (6.4%) reportedly practiced open defecation. Households reporting open defecation were primarily in makeshift tent populations in Deir-al-Balah (22.3%) and to a lesser extent Khan Younis (9.1%).
- A few households reported open defecation being practiced in UNRWA Shelters in Khan Younis (6.1%), North Gaza (3.5%) as well as Non-UNRWA Shelters in Khan Younis (5.1%), Gaza (9.1%) and North Gaza (3.5%), which may be indicative of some communal toilets in these sites becoming broken, full, or other barriers to communal use in these sites. Misuse of this communal toilets leading to hygienic concerns have been highlighted in partners' report.
- In Makeshift tent populations in the South, family toilets were more frequently reported than other types (75.6%), while expectedly there was a general pattern of communal toilets reported in UNRWA (49%) and Non-UNRWA sites (37.3%). Technical reports have highlighted a number of self-built family latrines ranging from a simple hole in the sand to more advanced facilities with concrete slabs, lined pits and private super structures.

Given pre-crisis populations were quite used to using toilets, it is possible there is some stigma to reporting open defecation and therefore a possibility that toilet coverage is overestimated. It may also be possible there is some sharing between family latrines, but this was not asked about within the scope of this assessment and may call for qualitative followup. The sanitation data collected informs on the populations accessing a toilet, the type of toilet sharing taking place and the barriers relating to toilet use, the data does not estimate the number of users per toilet as this would require interviewees to speculate.

To meet the Sphere standard that "people should have adequate, appropriate, and acceptable toilets providing rapid, safe, and secure access at all times," the WASH cluster needs to define what constitutes adequate, appropriate, and acceptable sanitation facilities in the Gaza Strip, through community engagement. However given the barriers identified by responders, upgrading the current sanitation facilities is crucial. Moreover, it is important to highlight that cultural acceptance of using latrines is not a significant challenge, especially given the widespread use of self-built sanitation facilities. Population are demanding for toilets, which means pour-flush toilets, because latrines are perceived as not being of sufficient quality.

FIGURE 7: PROPORTION OF ASSESSED HOUSEHOLDS BY MAIN TYPE OF SANITATION FACILITY REPORTED, BY POPULATION GROUP AND GOVERNORATE



3 According to the Joint Monitoring Program (JMP) definition, the sanitation facilities currently in use will be classified as limited or basic services.

Functionality, social and physical barriers posed challenges for populations in utilizing sanitation facilities overall, with household respondents most frequently reporting lack of cleanliness/hygiene (48.3%) and broken or full toilets (35.4%) as the most common difficulties. Makeshift tent and Hard-to-Reach populations in the South generally were more likely to report that some groups of people did not have access to toilets, possibly related to people within makeshift tent sites not sharing family latrines. Additionally, distance was a major barrier reported for makeshift tent populations using mobile communal toilets (42.6%). Safety was also an issue to toilet utilization with two-thirds (66.3%) of respondents reporting not feeling safe while using sanitation facilities. The main reasons were fear of vermin/pests (59.3%), lack of privacy (56.5%), and lack of lighting (47.4%), with to a lesser extent reporting of lack of locks (29.5%), not wanting to be seen going to the toilet (21.1%), perceived danger (16.6%) and lack of sex seperated toilets (15.6%). Perceived danger was more frequently reported by households using family toilets (20.1%) compared to communal static (13.5%) or communal mobile (8.5%) toilets, and often related to fear of collapse due to poor quality construction.

FIGURE 8: PROPORTION OF ASSESSED HOUSEHOLDS BY SELF-REPORTED BARRIERS TO USING TOILETS, OVERALL

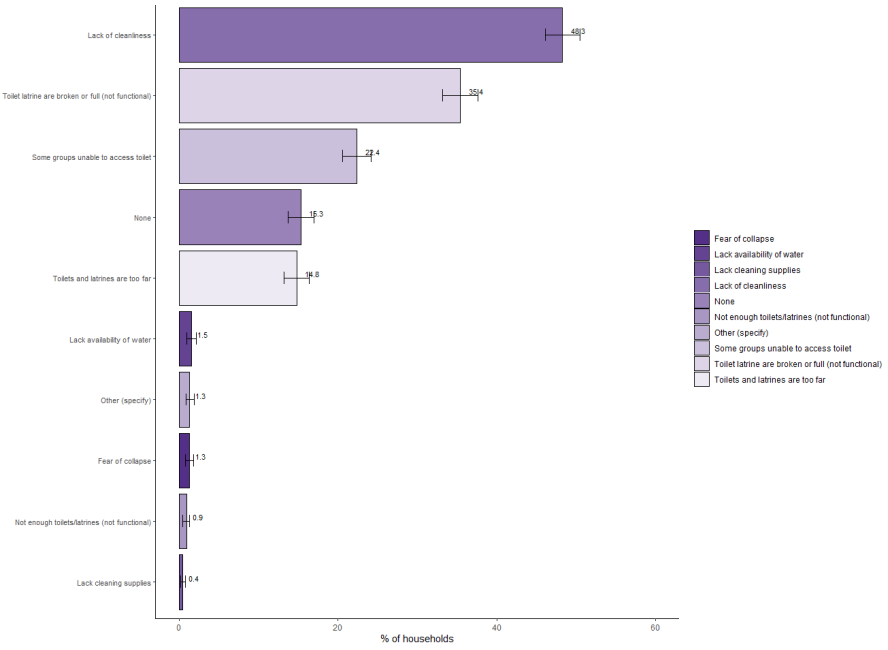


FIGURE 9: PROPORTION OF ASSESSED HOUSEHOLDS BY SELF-REPORTED SAFETY BARRIERS TO USING TOILETS, OVERALL

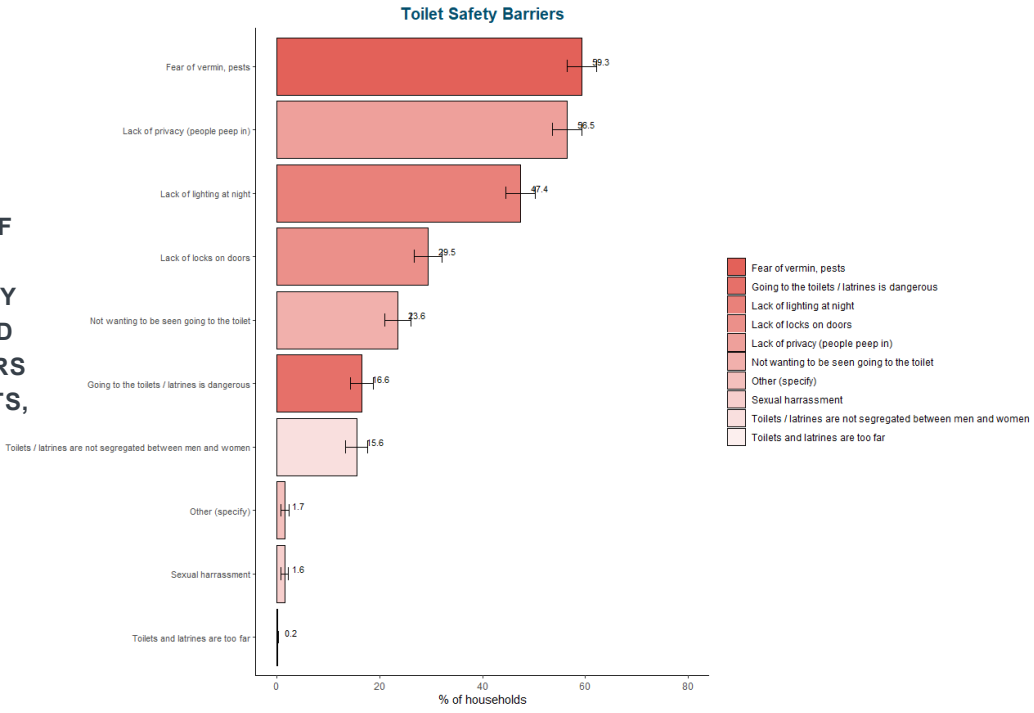


FIGURE 10: PROPORTION OF ASSESSED HOUSEHOLDS BY SELF-REPORTED SAFETY BARRIERS TO USING TOILETS, BY POPULATION GROUP AND TYPE OF SANITATION FACILITY

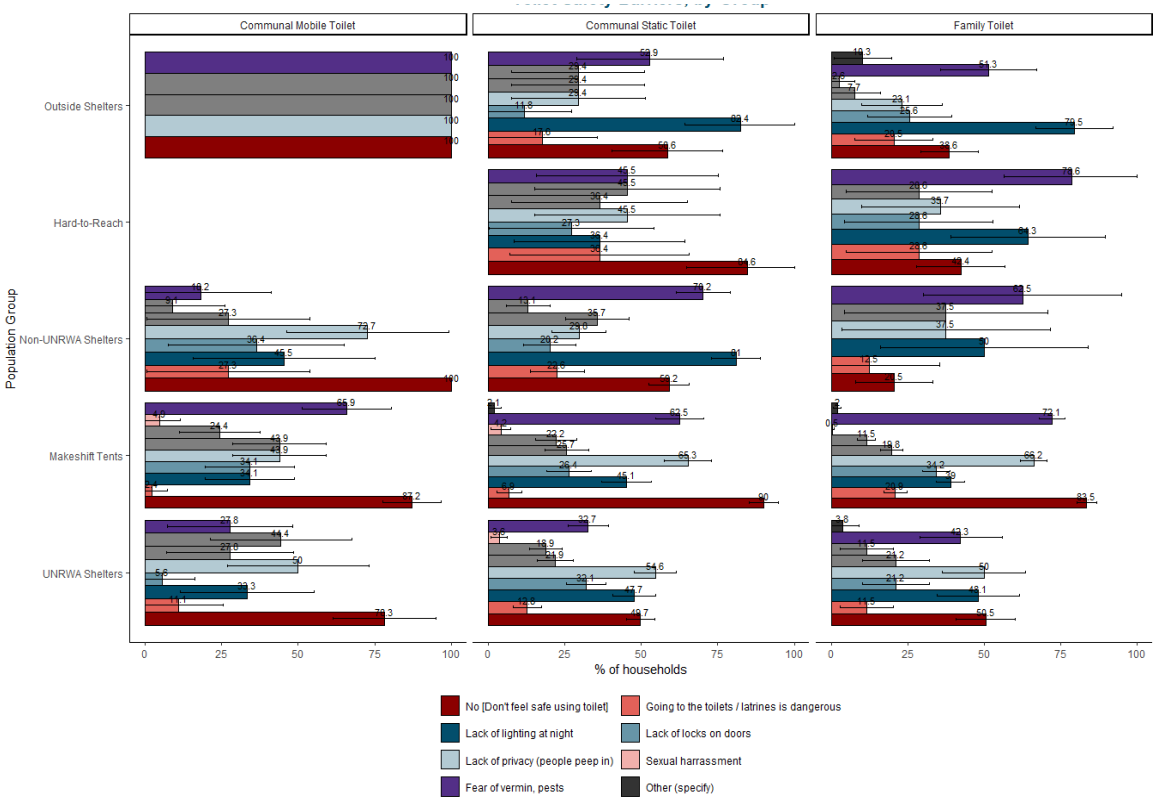
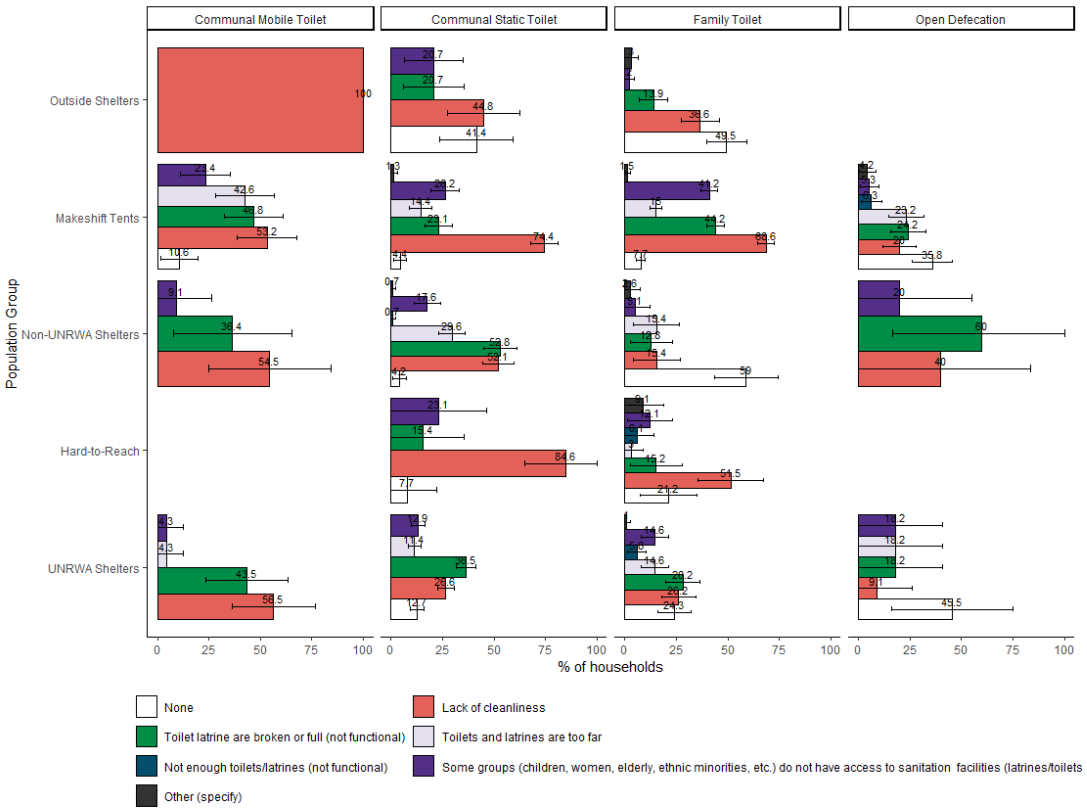


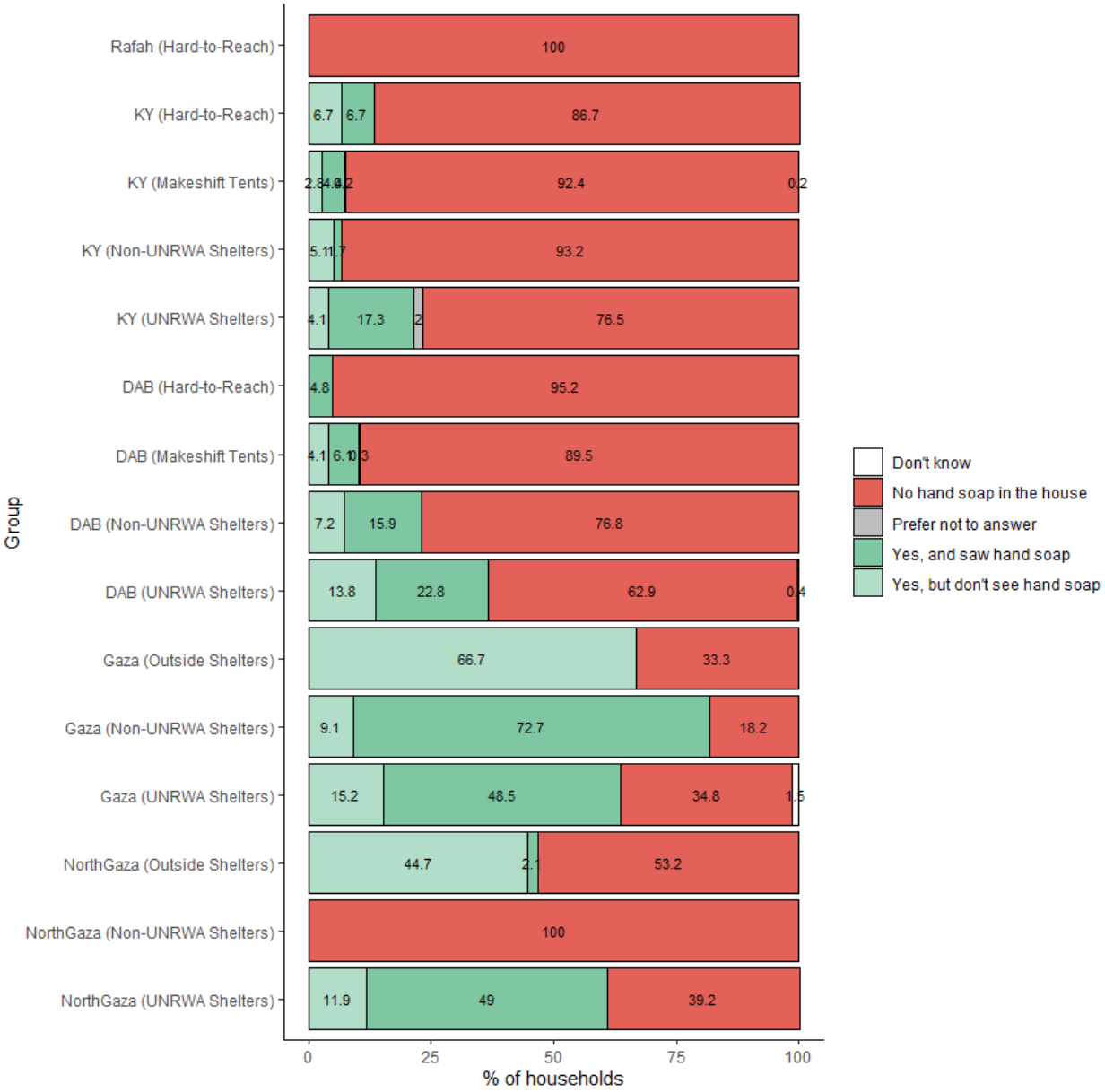
FIGURE 11: PROPORTION OF ASSESSED HOUSEHOLDS BY SELF-REPORTED BARRIERS TO USING TOILETS, BY POPULATION GROUP AND TYPE OF SANITATION FACILITY



4.4 Soap Ownership

Overall a minority of households had access to soap, with less than one-quarter (24%) reporting or showing soap at the time of the assessment. There were strong differences between geographic and population groups on who reported having soap, with generally populations in the North and UNRWA Shelters more frequently reporting having soap. In particular, populations in North Gaza (49.4%), Gaza (64.7%) Governorates were more likely to report having soap compared to Deir-al-Balah (20.7%) and Khan Younis (8.9%) Governorates. Populations living outside of shelters in the North (59.6%) and in UNRWA Shelters (43.7%) were most likely to have soap, compared to poplulations living in Non-UNRWA Shelters (19%) and makeshift tents in the South (7.8%). These differences may likely be related to differences in the availability of Soap in the North compared to the South as humanitarian actors have had a greater ability in recent months to transport WASH NFI supplies into the North and hygiene items are still available in the northern markets from existing stock, but these supplies are rapidly dwindling due to the lack of new shipments from the private sector. In the South, a significant challenge is the unavailability and high cost of soap in the market, combined with the lack of consistent in-kind distribution to support lack of market supply.

FIGURE 12: PROPORTION OF ASSESSED HOUSEHOLDS BY SOAP OWNERSHIP, BY POPULATION GROUP AND GOVERNORATE



4.5 WASH Expenditures

Populations are incurring increasingly higher expenses in order to meet their basic WASH needs, with high price increases for some basic expenditures compared to pre-crisis levels according to WFP Market Monitoring Data. In addition, low availability of water and hygiene items in the market contribute to this burden, with the Cash Working Group reporting for August nearly no availability of hygiene items across all Governorates.

TABLE 6: PROPORTION PRICE INCREASE OF SELECT WASH NFIS COMPARED TO PRE-CRISIS PRICES - AUGUST 2024

Governorate	Hand Soap	Diapers	Sanitary Pads
North Gaza	580%	108.3%	12.5%
Gaza	580%	108.3%	12.5%
Deir-al-Balah	2900%	147%	16.3%
Khan Younis	1250%	180%	---
**WFP Market Monitoring Data (September 2024)*			

At the time of the assessment, two-thirds of households (67.9%) reported purchasing drinking water in the last 7 days at an average weekly expenditure of 46 Shekels. The purchase of domestic water was less frequent with only a quarter (24.5%) of households having purchased in the last 7 days at an average weekly expenditure of 55 Shekels. Prices may be driven by transportation or fueling costs for water pumps at private or agricultural wells. Some populations were observed to have higher average drinking water costs compared to others, in particular populations in Hard-to-Reach areas of Rafah (92.5 Shekels), populations living in Non-UNRWA Shelters in Khan Younis (61.3 Shekels), and makeshift tent populations in Deir-al-Balah (56.7 Shekels). Similarly domestic water expenditures were higher than average for populations in UNRWA Shelters in Khan Younis (77.9 Shekels), Hard-to-Reach populations in Rafah (73 Shekels), Outside Shelter populations in Gaza (64.5 Shekels), and Hard-to-Reach populations in Khan Younis (64 Shekels). The locations supplementing water supply through purchases correspond to those reporting poorer access to water namely Hard-to-Reach areas, non-UNRWA shelters and makeshift shelters in Deir-al-Balah.

The most frequently reported WASH NFI items reported purchased by assessed households in the previous 30 days included sanitary pads (60.5%) at an average of 38 Shekels, soap (49.9%) at 81.9 Shekels, a bottle of shampoo of 700ml (43.4%) at 89.7 Shekels, and diapers (36.5%) at 115.7 Shekels, with only a handful of households reported expenditures on water containers within the past 30 days, which are not widely available on the market. According to CWG price monitoring data in August, a pack of diapers costs approximately 70 Shekels, a bottle of shampoo of 700ml 80 Shekels, Soap 38.75 Shekels, and sanitary pads 12.3 Shekels. The highest average monthly expenditure was observed in Hard-to-Reach populations in Rafah (542 Shekels), Khan Younis UNRWA Shelters (518 Shekels), Khan Younis Non-UNRWA Shelters (414 Shekels), Deir-al-Balah Non-UNRWA Shelters (421 Shekels), driven by combinations of high expenditures on drinking and domestic water, soap and shampoo. In a context where most people have lost their income and where the maximum earning through Cash for Work modalities range from 1,044 and to 1,813 Sh, these costs equate to 50-70% of their income, an exorbitant expense.

FIGURE 13: PROPORTION OF ASSESSED HOUSEHOLDS WITH REPORTED WASH EXPENDITURE, BY EXPENSE

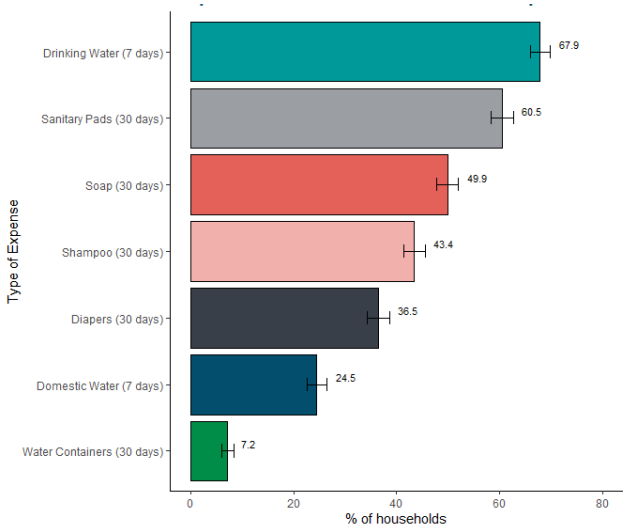


FIGURE 14: AVERAGE REPORTED COST IN SHEKELS FOR WATER AND WASH NFIS, BY EXPENSE

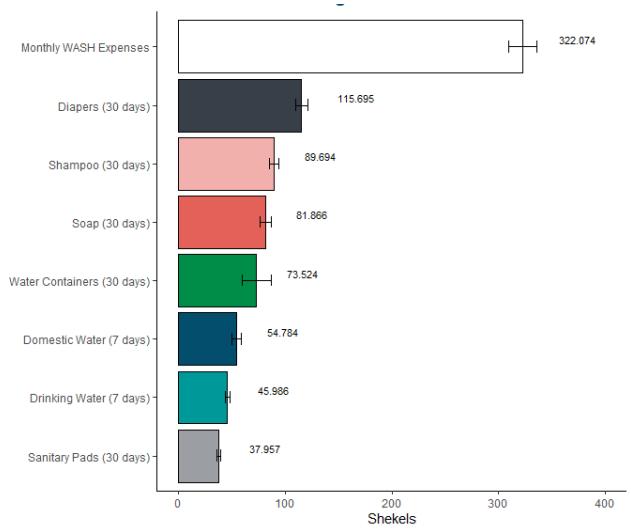


FIGURE 15: PROPORTION OF ASSESSED HOUSEHOLDS WITH REPORTED WASH EXPENDITURE, BY EXPENSE, POPULATION GROUP AND GOVERNORATE

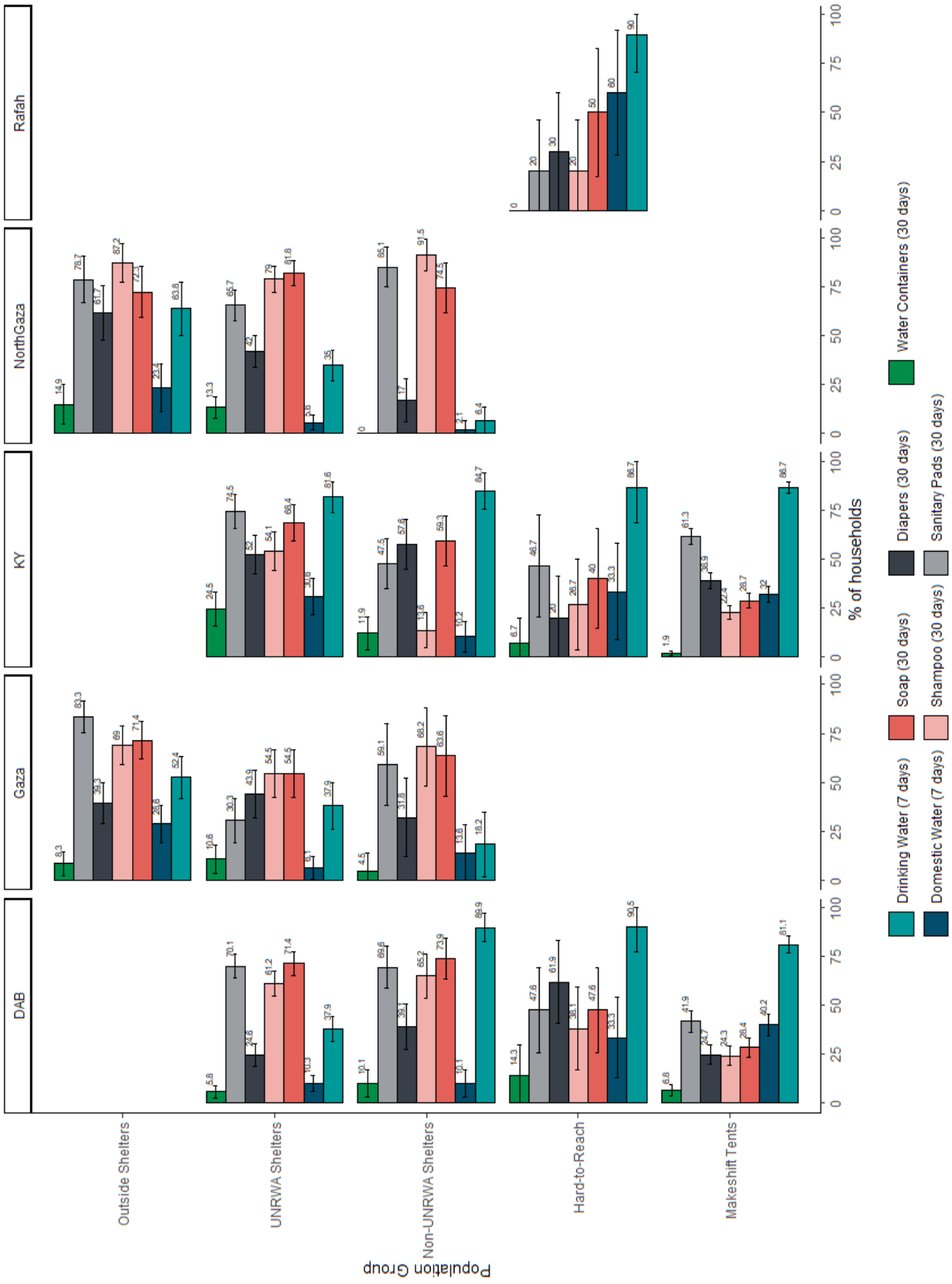
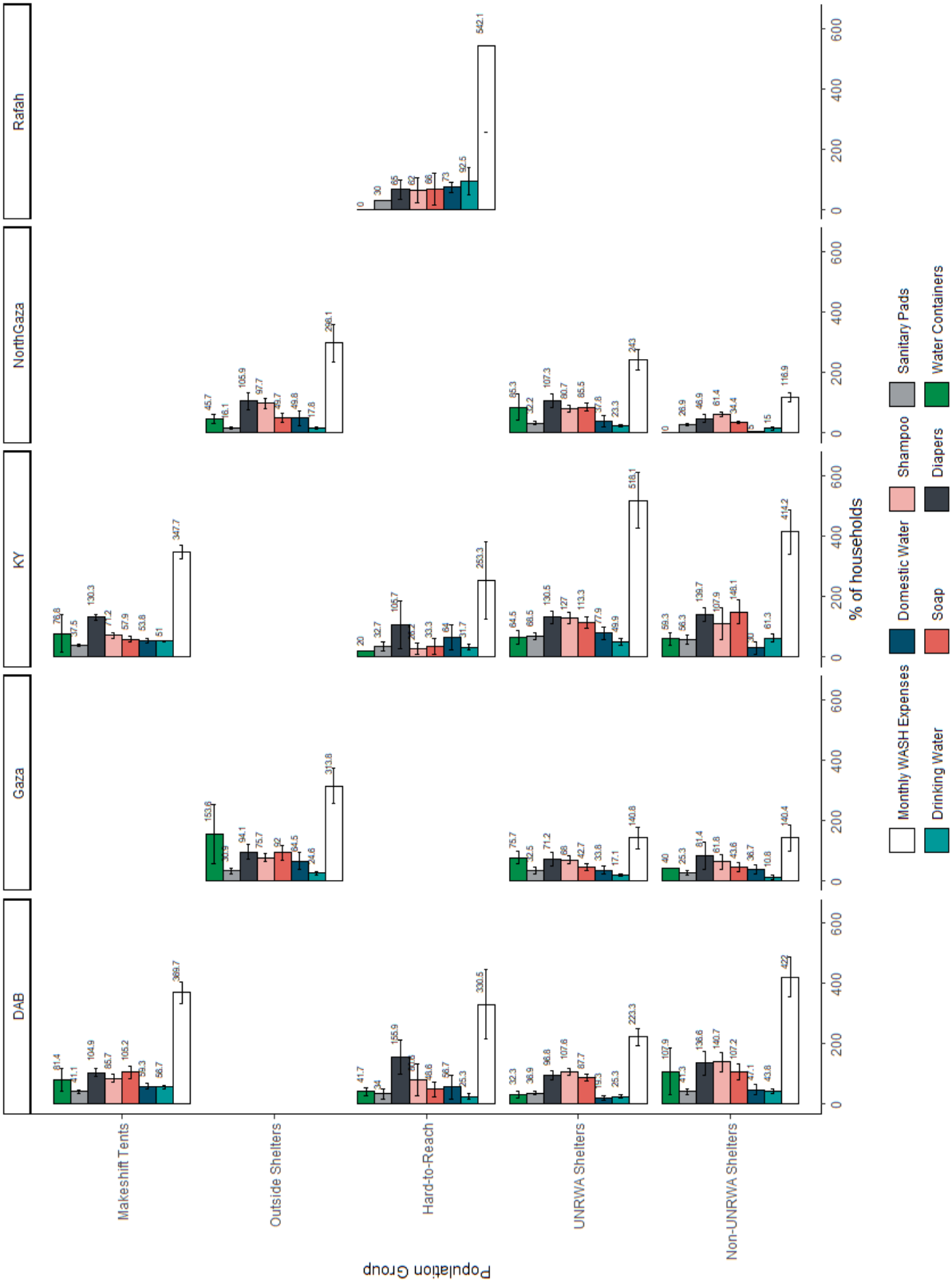


FIGURE 16: AVERAGE REPORTED COST IN SHEKELS FOR WATER AND WASH NFIS, BY EXPENSE, POPULATION GROUP AND GOVERNORATE



4.6 Public and Environmental Health

Widespread exposure to different environmental health threats were reported by household respondents within 10 meters of their shelter, increasing the risk of disease outbreaks and in particular WASH-related morbidities. The most frequently reported exposures included rodents and pests (76%), sewage (45.6%), human waste or feces (33.9%).

- People in makeshift sites in the South most frequently reported exposures to human waste/feces (38%) over other areas.
- In Gaza Governorate, the vast majority of respondents reported solid waste (92%) as a major exposure, as well as sewage (72%).
- Of households reporting sewage exposures, more than half was reported from broken sewer networks (59.2%), sewer neighbouring family toilets (28.4%), and sewer outlets (11%).
- Qualitatively some of the reported latrine exposure may be due to poorly constructed family toilets in make-shift sites, or the perception of exposure even if the sewage is contained.

Other public health threats qualitatively reported included the quality of domestic water and its impact on skin infections and people's health, as well as the heat, and quality of the sand on the heavily encamped coastal areas. Frequent reporting of rodents/pests is likely related to the lack of solid waste management at the community level, with over 140 uncontrolled dumping sites identified and major loss of assets by the Joint Services Council (JSC) responsible for trash collection, including the loss of waste containers, vehicles, and other essential equipment.

The deterioration of the WASH situation over the course of the war coupled with the increase in environmental health exposures has clearly had an impact on public health with an increase in disease outbreaks and incidences, particularly for WASH-related morbidities. Overall, one-fifth (20.9%) of individuals were reportedly sick in the two weeks prior to data collection with more than a quarter (27.9%) of children under-5 sick. Acute watery diarrhoea (AWD) was reported as a symptom for some individuals (4.9%) with a higher frequency in children under-5 years of age (8.7%), with much higher levels of under-5 AWD reported in some geographic and population groups including Hard-to Reach areas in Nuseirat (29%), Hard-to-Reach populations in Rafah (16.7%), and UNRWA Shelters in Gaza (11.4%) and Non-UNRWA Shelters in Gaza (16.7%).

- Skin infections were reported as prevalent overall (12.6%) and higher with under-5 year old children (18.3%) across geographical and population groups, linked to the lack of hygienic conditions in Gaza strip due to lack of hygiene items, lack of privacy, and other barriers to hygiene Higher frequency of reporting for under-5 populations was observed in Non-UNRWA Shelters across governorates (25.8%) and Hard-to-Reach areas (44.2%).
- Yellow skin and eyes as a symptom was asked as a potential indication of Hepatitis A infections, although the symptom may be indicative of other conditions. Some reporting (>2%) of yellow skin or eyes was observed in populations outside shelters in North Gaza (4.2%) and Gaza Governorates (2.3%%), UNRWA Shelters in North Gaza (2.7%) and Gaza (2.6%), Non-UNRWA shelters in Gaza (2.9%), and Makeshift tents in Khan Younis (2.9%).

FIGURE 17: PROPORTION OF ASSESSED HOUSEHOLDS WITH REPORTED EXPOSURE TO ENVIRONMENTAL THREAT WITHIN 10 METERS OF SHELTER, OVERALL

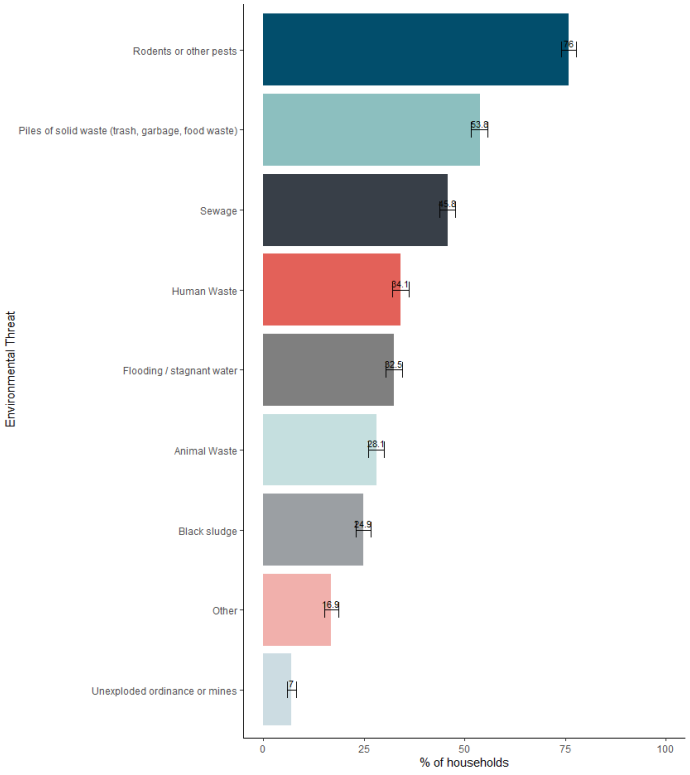


FIGURE 18: PROPORTIONS OF INDIVIDUALS REPORTED SICK IN THE PAST TWO WEEKS, BY AGE AND SYMPTOM

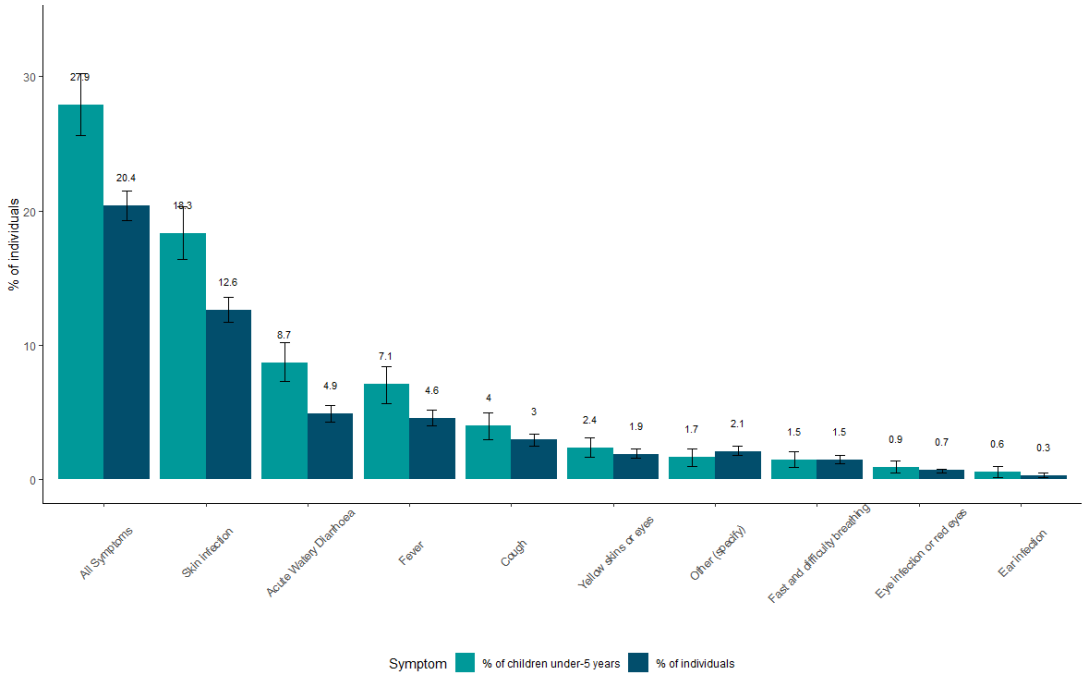
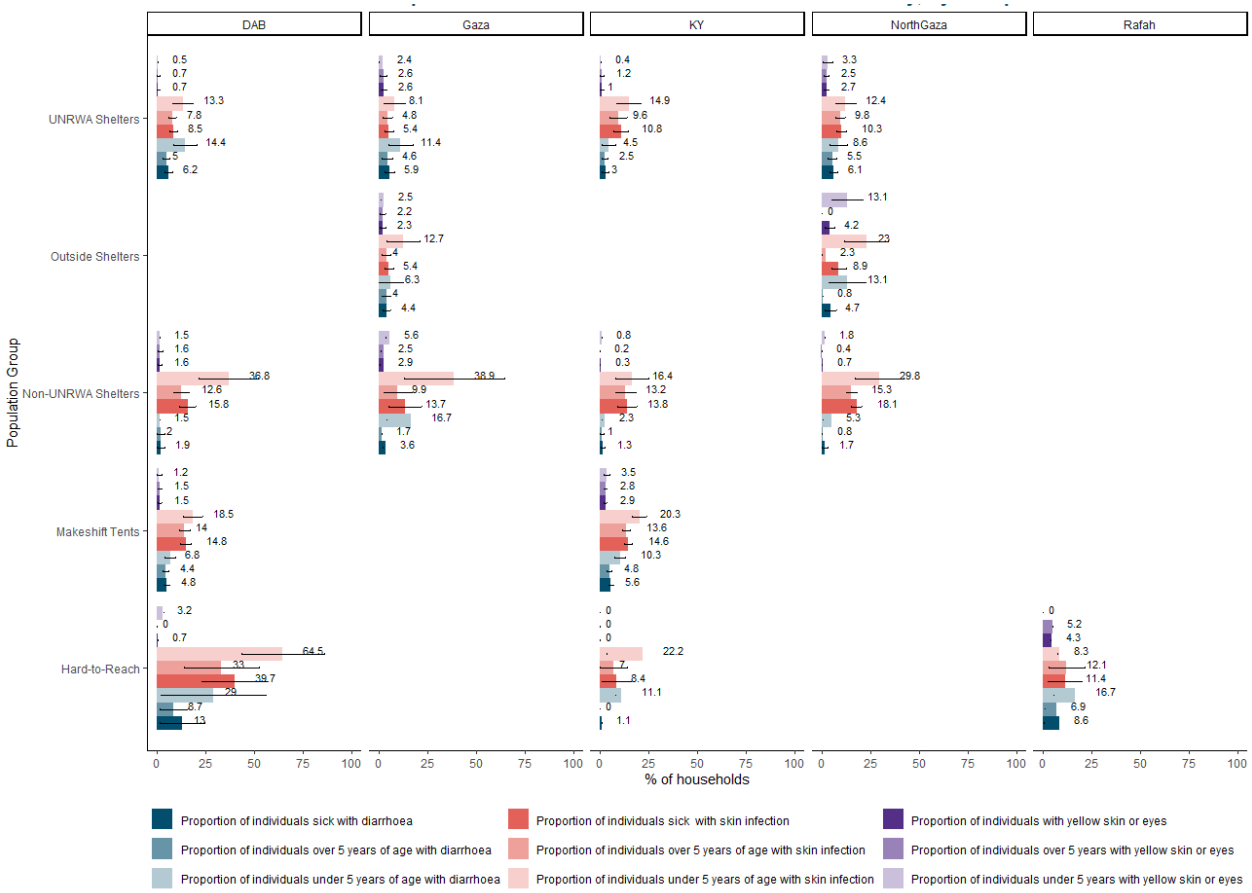


FIGURE 19: PROPORTION OF INDIVIDUALS SICK IN THE PAST TWO WEEKS WITH WASH-RELATED SYMPTOMS, BY SYMPTOM, AGE, POPULATION GROUP, AND GOVERNORATE



4.7 Humanitarian Assistance and Perceived Needs

Overall, approximately half of assessed households reported not receiving any humanitarian assistance within the last 30 days (48%) with differences observed geographically and by population group. The most commonly reported type of assistance reported was food assistance (42.3%), followed by drinking water (30.3%), domestic water (18.4%), and hygiene items (10.4%), and water containers (4.1%). Drinking water assistance was most frequently reported received by populations living in UNRWA Shelters (64.9%) and outside of shelters in the North (61.8%), followed by Non-UNRWA Shelters (32.5%), Hard-to-Reach areas of the South (13%) and lastly makeshift tents in the South (4.3%). This doesn't necessarily correspond with self-reported priority needs reported where combined first, second and third priority needs for drinking water were highest for UNRWA Shelters (64.9%) and Hard-to-Reach populations (54.3%) compared to makeshift tents in the South (32.2%), and Non-UNRWA Shelters (23.8%). This may indicate that while UNRWA Shelters are more likely to receive drinking water assistance, it is not sufficient for the populations in those shelters.

FIGURE 20: PROPORTION OF HOUSEHOLDS REPORTEDLY RECEIVING HUMANITARIAN ASSISTANCE IN LAST 30 DAYS, BY TYPE OF ASSISTANCE AND POPULATION GROUP

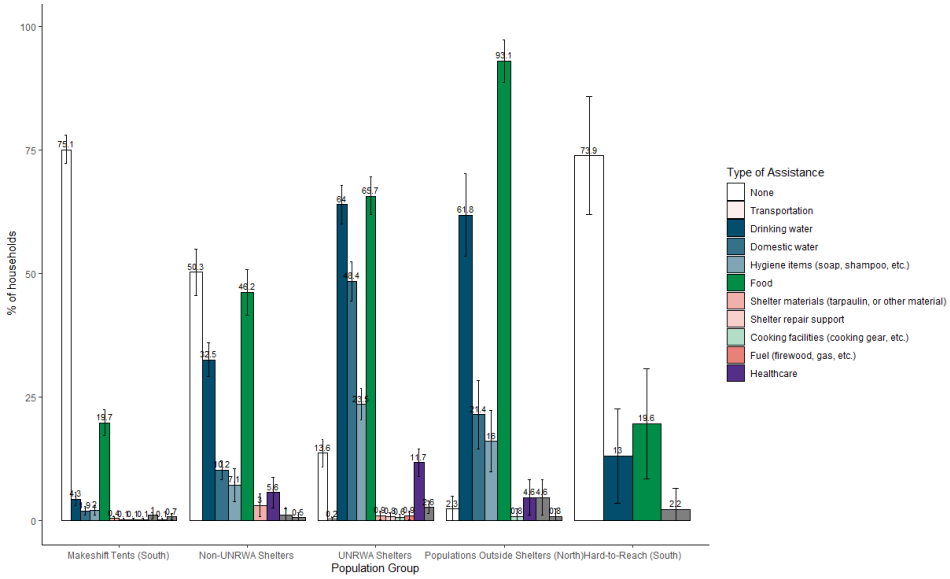


FIGURE 21: PROPORTION OF HOUSEHOLDS REPORTEDLY RECEIVING HUMANITARIAN ASSISTANCE IN LAST 30 DAYS, BY TYPE OF ASSISTANCE AND GOVERNORATE

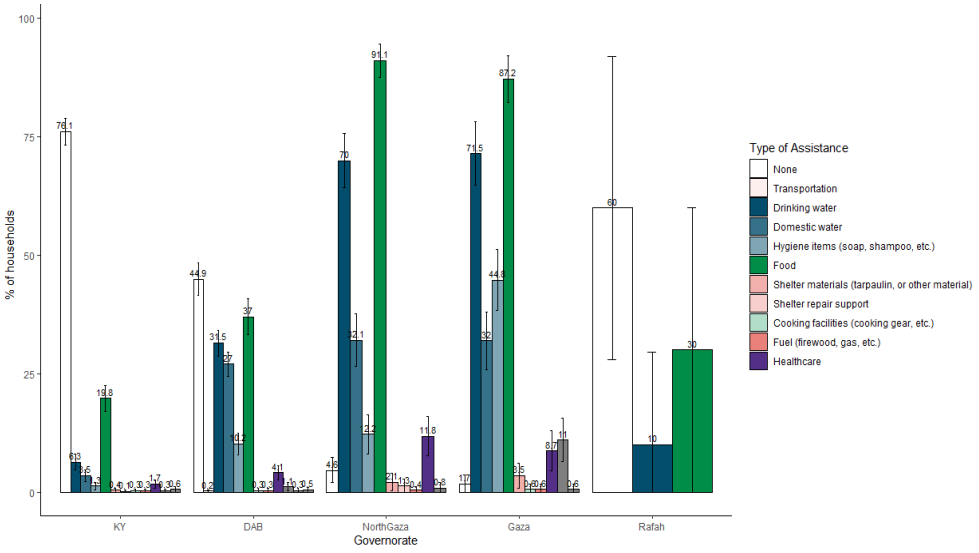


TABLE 7: MOST IMPORTANT SELF-REPORTED NEEDS ACROSS 1ST, 2ND, AND 3RD PRIORITY NEEDS REPORTED BY ASSESSED HOUSEHOLDS, BY GOVERNORATE

Most Important Needs across 1st, 2nd and 3rd Reported Priorities of Assessed Households, by Governorate					
Governorate	**1st**	**2nd**	**3rd**	**4th**	**5th**
North Gaza	*Food (73.9%)*	*Safety (48.5%)*	*Hygiene (45.6%)*	*Cash/Livelooods (43.1%)*	*Drinking Water (40.1%)*
Gaza	*Food (81.9%)*	*Safety (81.9%)*	*Drinking Water (54.7%)*	*Cash/Livelihoods (31.4%)*	*Hygiene (24.4%)*
Deir-al-Balah	*Hygiene (64.3%)*	*Food (57%)*	*Drinking Water (49.5%)*	*Cash/Livelihoods (35.3%)*	*Clothing/Blankest (22.7%)*
Khan Younis	*Hygiene (82.8%)*	*Cash/Livelihoods (63.1%)*	*Drinking Water (34.4%)*	*Clothing/Blankets (31.5%)*	*Food (26.1%)*

Alternatively, as populations living in makeshift tents and Non-UNRWA Shelters generally appear to be the least served populations across sectors, may still be in need of drinking water assistance but did not mention it over other response options. For instance across first/second/third priority needs reported, populations in makeshift tents in the South most frequently reported hygiene items (66.1%) and cash or livelihoods support (43.5%). This was similarly observed for Non-UNRWA Shelters reporting hygiene items (69.1%) and cash or livelihoods support (48.2%), and food (30.4%) as top needs over drinking water. Domestic water and water containers were not as frequently mentioned within the top three priority needs for WASH compared to drinking water and hygiene items.

The proporiton of households reporting any need across 1st, 2nd, or 3rd priorities was aggregated in order to make have a better understanding of perceived need overall. In the Southern Governorates, need for hygiene items was the overwhelmingly reported need in Khan Younis (82.8%) and Deir-al-Balah (64.3%). In Deir-al-Balah, this was followed by needs for food (57%), drinking water (49.5%), cash and livelihoods support (35.3%), and clothing/blankets (22.7%). In Khan Younis, the next most important needs included cash and livelihoods support (63.1%), drinking water (34.4%), clothing/blankets (31.5%) and food (26.1%). Rafah was not included here due to low sample sizes.

In the Northern Governorates, self-reported WASH needs took a backseat to other needs, namely food and safety. In North Gaza, the most frequently reported priority needs by assessed households were food (73.9%), safety (48.5%), hygiene items (45.6%), cash and livelihoods support (43.1%), and drinking water (40.1%). In Gaza, the most frequently reported needs were food (81.9%), safety (81.9%), drinking water (54.7%), cash and livelihoods support (31.4%), and hygiene (24.4%).

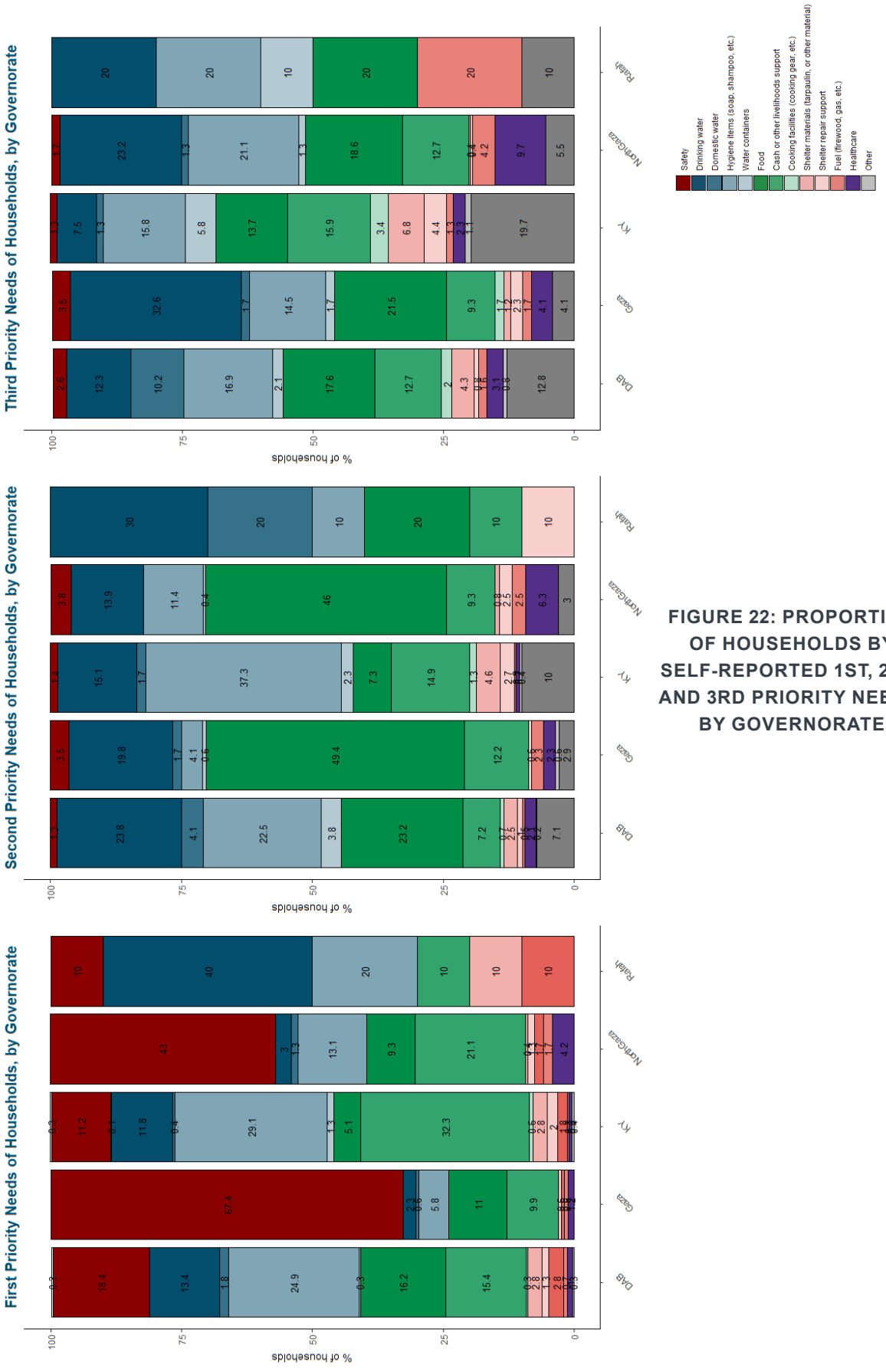


FIGURE 22: PROPORTION OF HOUSEHOLDS BY SELF-REPORTED 1ST, 2ND, AND 3RD PRIORITY NEEDS, BY GOVERNORATE

FIGURE 23: PROPORTION OF HOUSEHOLDS BY SELF-REPORTED 1ST, 2ND, AND 3RD PRIORITY NEEDS, BY POPULATION GROUP

5 DISCUSSION AND LIMITATIONS

This Rapid WASH Assessment was conducted under extremely challenging conditions, including a complex security environment, limited partner resources and capacities, and a constantly evolving situation. Despite these obstacles, the information gathered and reported here fills a crucial information gap at a time when the WASH response urgently needs data to improve prioritization and determine the need for scaling up or redirecting humanitarian assistance. This assessment has provided sufficiently reliable information for WASH decision-makers to gain insights into the severity of WASH needs. Consequently, the needs of some of the most vulnerable, hidden, and difficult-to-assess populations can be identified to ensure that no one is left behind.

The findings revealed that a significant portion of the population is not receiving the minimum required quantity of drinking and domestic water. This issue primarily stems from the lack of availability for households and insufficient water containers to manage disrupted distribution. Despite considerable efforts from both the public and private sectors to maintain water production, distribution is hampered by a severely damaged water network, with an estimated 50% loss due to leakages and insufficient water trucking capacity. This is due to the limited number of water trucks, inadequate filling stations, poor road conditions, and the lack of pumps in trucks or at distribution points.

As a result, people are increasingly relying on private providers using smaller desalination plants, private home wells, and other sources to meet their needs. Distribution is often handled by the informal sector, including donkey carts and trucks, which places a financial burden on vulnerable populations and strains other limited private water supplies. More efforts are needed to improve the safety and equitable distribution of drinking water and to support the private and informal sectors in ensuring the quality and affordability of water services. This assessment must be complemented by understanding the functionality and accessibility of water facilities and the remaining challenges related to water production and quality. The variety of water sources highlights the need to better understand water quality and household perceptions of water quality for drinking and domestic use.

The coverage of basic sanitation facilities was perhaps higher than was anticipated prior to the assessment, but comes with several caveats. While most populations report some access to sanitation facilities they also site several issues as barriers of sanitation facilities, the quality/condition and ease of use of these facilities remains a major issue - in particular issus of hygienic cleanliness of facilities, personal perceptions of safety, and maintenance in the longer term. In particular in UNRWA and Non-UNRWA Shelters, frequent reporting of broken or non-functional toilets may only continue to grow as an issue as the crisis continues. Self-built family latrines in makeshift and other camp like settings has been useful in reducing the risks associated with open defecation, but lack of technical standards and poor construction may also evolve into a larger issue in the future. Furthermore the full extent of damage to waste water treatment facilities and sewer networks is yet to be assessed and may uncover additional challenges in the future.

The WASH cluster must establish clear criteria for what constitutes adequate, appropriate, and acceptable sanitation facilities in the Gaza Strip. With these definitions in place, the WASH cluster will be better equipped to evaluate basic sanitation services in the next assessments.

Lastly, WASH hygiene items unsurprisingly remain a large gap in the response with very low access and affordability to soap and other hygiene items. While access was marginally better in the North for these items, deficits in the South have continued for many months due to the operational and logistical challenges of importing WASH NFIs and assistance in general due to losses of shipments entering Gaza and bottlenecks in the importation process.

Given the operational environment, limited partner capacities, and the difficulty of measuring water consumption, the assessment has several limitations that should be noted, including:

- **Measurements issues for liters per person per day** - Estimating liters per person per day was the key indicator for this assessment. However challenges and issues occured during both due to contextual challenges and data collection issues in measurement included distinction between drinking and domestic water sources, use of water at point of distribution, misclassification of container volumes and units, irregular frequency of water collection, use of multiple water sources, and double counting between water collection and storage containers. Data cleaning attempted to correct errors where possible in consultation with enumerators, and remove statistical outliers from analysis - however despite this approximately 15% of records were removed from analysis for drinking water LPPD, 24.4% for domestic water LPPD, and 29.5% for total LPPD in order to minimize risk of bias in the point estimates. Lessons learned will be taken from the first round and reflected in subsequent rounds of Rapid WASH Assessment in order to improve on data quality for this key indicator.
- **Limited representativeness due to security challenges** - While data collection in most of the humanitarian zone was unimpaired, evacuation orders repeatedly infringed upon the humanitarian zone and caused data collection teams to delay or be unable to complete data collection, particularly in areas around Central Zuweida, Nuseirat, Bani Suheila, and Asdaa. Several UNRWA and Non-UNRWA Shelters became unaccessible during the data collection period in both the North and the South, limiting the ability to assess those locations, in particular those areas outside of the humanitarian zone and therefore limit the representativeness of those results.

6 CONCLUSIONS AND RECOMMENDATIONS

Nearly one year into the conflict, this assessment is the first attempt at a rigorous measure of the severity of WASH needs within Gaza and paints a dire picture of a population struggling to meet their basic needs.

Recent reports raise significant concerns, including tensions at crowded water points, the use of old and unsafe water contain¬ers, and the collapse of the sewage treatment and disposal system. Additionally, overwhelming piles of waste have accumulated in the streets, and hygiene items are unavailable, highlighting the severe gaps in WASH services for the community.

Outbreaks of WASH-related diseases, such as acute watery diarrhea and Hepatitis A, persist and are exacerbated by increasingly un¬hygienic conditions. Skin diseases are highly reported in assessment reports and by partners.

Immediate action is crucial to improve the WASH conditions and services in the Gaza Strip and to mitigate against a broader public health crisis in the region.

The situation is highly volatile, with new displacements, asset losses, and reduced access to WASH facilities, including water production sites, potentially worsening conditions significantly. Therefore, it is imperative for WASH cluster partners, supported by humanitarian donors, to prioritize strengthening both operational and financial capacities to sustain and improve access to WASH services.

Key recommendations include:

- **Enhancing household water availability** involves maintaining current water production levels while investing in improved distribution methods. This approach aims to lower the cost burden on households without disrupting income-generating activities related to water production and distribution. The goal is to ensure that every individual consistently receives at least 6 liters of safe drinking and cooking water per day, along with a minimum of 9 liters of domestic quality water daily.
- **Diversifying and increasing the availability of water containers at both community and household levels** to ensure effective separation and storage of drinking and domestic water. Recommendations from a workshop held in Gaza with WASH cluster partners include distributing a 200L barrel for domestic water storage, four 10L jerrycans for collecting and storing drinking water, and at least one bucket with a lid for domestic water collection. These recommendations should be confirmed based on the availability and volume of supplies.
- **Enhancing Latrine Quality, Safety, and Privacy** and actively involve men, women, and children in every phase of sanitation facilities, from design to operation and maintenance. This also includes expanding efforts to support both self-built family and communal toilets through various methods. Additionally, until market conditions improve, it is crucial to regularly import cleaning materials.
- **Scaling Up Sanitation Efforts** by assessing the feasibility of and then investing in a comprehensive emergency sanitation system that addresses the entire san¬itation chain. This includes promptly repairing the sewage network, removing overflow sewage from the environment, lightly treating sewage and sludge before disposal, and decommissioning self-built latrines.
- **Enhance the targeting and prioritization of WASH response using public health indicators**. Invest in identifying critical sources of contamination and risky practices through improved surveillance and monitoring systems. Additionally, allocate resources to facilitate WASH mobile and rapid response teams to avert crises and respond to potential outbreaks.
- **Investing financially in first-line responders** and building their capacity to help communities mitigate

safety risks associated with access to WASH services including water distribution, collection, and the use of communal and family latrines.

- **Advocating for increasing the importation of WASH NFIs (soap, water containers, and hygiene kits).** While blanket distribution is the goal while the market cannot meet the demand, and assessments support this need, the limitations on bringing items into the Gaza Strip necessitate prioritizing impactful distributions. This approach aims to reduce vulnerabilities by targeting the most at-risk groups, including households with malnourished children, areas experiencing a surge in waterborne diseases, and newly displaced households.
- **Scaling up Emergency Solid Waste Management efforts** by assessing the feasibility of and investing in a omprehensive emergency solid waste management system that includes primary and secondary waste collection and maintaining the capacity of SWM service providers.
- **Investigating and monitoring the applicability of market-based approaches** (such as cash for work or cash transfers) to increase the access of drinking and domestic water and WASH NFIs for vulnerable populations.
- **Prioritizing vector control interventions** including importation and distribution of insecticide and rodenticide materials and promotional activities around their utilization to reduce public health risks from these sources.
- **Facilitate access for humanitarian actors** to hard-to-reach areas outside the humanitarian zone to provide minimum water and NFI supplies to vulnerable populations, wherever they may be.
- **Conduct follow-up technical evaluations** to enhance and guide emergency WASH programming in Gaza. This includes assessing household water quality and its relationship with water management practices, evaluating latrines for structural and functional integrity, performing safety audits of community WASH infrastructure to ensure compliance and safety, and using qualitative methods such as focus groups and community mapping to understand community perceptions on hygiene. These insights will also support behavior change and community engagement efforts in emergency programming.
- **Plan and implement WASH surveillance** activities to continuously monitor the evolution of WASH needs and service gaps on a routinely frequent basis.

To fully achieve the recommendations described above it is essential that the WASH stakeholders unite in their efforts to implement and delivery services in the Gaza Strip. It must be noted however that despite the relentless and dedicated activities of partners, without a safe and secure operational environment, any programmatic achievements can rapidly be reversed as has been seen over the last year.

A ceasefire, unimpeded access and a reliable supply chain are essential prerequisites to the delivery of a WASH response at scale and providing life-saving services in order to achieve the public health and dignity goals in the Gaza Strip.

Only through these measures can we ensure the sustainability and effectiveness of our interventions.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ANNEXES

ANNEX 1
Rapid WASH Assessment Consultative Process

ANNEX 2
Sample Size Calculations

ANNEX 3
Planned Samples per Makeshift Enumeration Areas

ANNEX 1: Rapid WASH Assessment Process

At key steps of the assessment, partners and the CLA has been consulted to ensure that the information gaps from partner has been adressed, to improve the process and the reliability of the assessment. Below is a brief summary of the key consultative steps within the Rapid WASH Assessment Process.

1) **Consultation with UNICEF and Gaza WASH Cluster Operational Partners** - In July 2024, partners at the Gaza WASH Cluster were introduced to the Rapid WASH Assessment objectives and provided feedback within the meeting incorporated into the research design. Partners were updated on the progress of the Rapid WASH Assessment preparation throughout the month. Representatives from the CLA were shared the initial Terms of Reference and provided feedback in a meeting in July 2024 and provided feedback, as well as technical consultations with UNICEF MEL staff.

2) **Training to Partners on Rapid WASH Assessment** - Initial trainings to partners were given from July 30 to August 1st, both in-person and remotely. The protection cluster also supported facilitation of basic protection concepts for data collection teams to keep in mind during the assessment.

3) **Rapid WASH Assessment Data Collection** - A mapping exercise was conducted with WASH implementing partners to determine which geographical areas they worked in, and their staffing and time capacity for supporting the assessment. This was then used to assign population groups and target per partner, based on each partners preference, access to populations within their own programmatic areas, and capacities.

4) **Consultation on Preliminary Results with WASH Cluster, UNICEF, SAG, and WASH Implementing Partners** - Preliminary results were shared in a series of meetings with relevant stakeholders prior to public dissemination in order to ensure the impact and interpretation was well understood in line with various partners understandings and perspectives of the context.

5) **Lessons Learned Activities** - Planned exercise for October/November 2024 in order to capture lessons learned from August data collection and improve the tools and methods for the next round of data collection.

ANNEX 2: Sample Size Calculations

Table: Selected Indicator Sample Size Calculations for Makeshift and Scattered Sites (Municipality)

Indicator	Prevalence	Desired Precision	Estimated Design Effect	Non-response	Estimated Sample Size	Justification
% of households with <3 lppd	50	18	2	3%	68	Previous Rapid WASH assessment in Rafah had better services, but still estimated a median of 2 litres per person per day. Safe to Estimate at least 50% of population < 3 lppd. DEFF of 2 as likely heavily related to water trucking or infrastructure.
% of households with any latrine access	50	18	2	3%	65	Unclear due to mix of family latrines, communal emergency latrines, and mobile latrine activities. Coverage is very unclear so 50% prevalence. DEFF of 2 due to infrastructure nature of the indicator.
% of households with soap	30	10	1.5	3%	60	Reported gaps in hygiene items available in the market, and availability in the response.
% of households exposed to environmental health issues within 10 meters	90	10	1.5	3%	45	Expected prevalence of 90% due to major solid waste management and latrine coverage issues. Likely most makeshift sites are facing issues. DEFF of 1.5 due to relative homogeneity of the problem.
Selected Sample Size Reporting Strata					69 households	26 clusters of 3 HHs, per reporting strata. Sufficient to cover most indicators at the desired precision for emergency assessment.

Table: Selected Indicator Sample Size Calculations for UNRWA Collective Centres in North (Cluster Sampling)

Indicator	Prevalence	Desired Precision	Estimated Design Effect	Non-response	Estimated Sample Size	Justification
% of households with <3 lppd	50	10	2	3%	215	Previous Rapid WASH assessment in Rafah had better services, but still estimated a median of 2 litres per person per day. Safe to Estimate at least 50% of population < 3 lppd. DEFF of 2 as likely heavily related to water trucking or infrastructure.
% of households with any latrine access	50	10	2	3%	215	Unclear due to mix of family latrines, communal emergency latrines, and mobile latrine activities. Coverage is very unclear so 50% prevalence. DEFF of 2 due to infrastructure nature of the indicator.
% of households with soap	30	10	1.5	3%	136	Reported gaps in hygiene items available in the market, and availability in the response.
% of households exposed to environmental health issues within 10 meters	50	10	1.5	3%	162	Expected prevalence of 50% estimating that the solid waste management may be better than the makeshift and scattered sites. DEFF of 1.5 due to relative homogeneity of the problem.
Selected Sample Size					216 households	27 clusters per governorate with 8 households per cluster. Sufficient to cover all above indicators.

Table: Selected Indicator Sample Size Calculations for UNRWA Collective Centres in South (Simple Random Sampling)

Indicator	Prevalence	Desired Precision	Non-response	Estimated Sample Size	Justification
% of households with <3 lppd	50	8	3%	150	Previous Rapid WASH assessment in Rafah had better services, but still estimated a median of 2 litres per person per day. Estimate at least 50% of population < 3 lppd.
% of households with any latrine access	80	8	3%	96	Within collective center, likely some latrine access but high sharing. Estimate 80%
% of households with soap	30	8	3%	126	Reported gaps in hygiene items available in the market, and availability in the response.
% of households exposed to environmental health issues within 10 meters	50	8	3%	150	Expected prevalence of 50% since information is not known.
Selected Sample Size				150	150 households per AoR

Table: Selected Indicator Sample Size Calculations for PA schools in South (Cluster Sampling)

Indicator	Prevalence	Desired Precision	Estimated Design Effect	Non-response	Estimated Sample Size	Justification
% of households with <3 lppd	50	14.5	2	3%	102	Previous Rapid WASH assessment in Rafah had better services, but still estimated a median of 2 litres per person per day. Safe to Estimate at least 50% of population < 3 lppd. DEFF of 2 as likely heavily related to water trucking or infrastructure.
% of households with any latrine access	80	14.5	2	3%	66	Unclear due to mix of family latrines, communal emergency latrines, and mobile latrine activities. Coverage is very unclear so 50% prevalence. DEFF of 2 due to infrastructure nature of the indicator.
% of households with soap	30	14.5	1.5	3%	86	Reported gaps in hygiene items available in the market, and availability in the response.
% of households exposed to environmental health issues within 10 meters	50	14.5	1.5	3%	48	Expected prevalence of 50% estimating that the solid waste management may be better than the makeshift and scattered sites. DEFF of 1.5 due to relative homogeneity of the problem.
Selected Sample Size					100	10 clusters of 10 households, sufficient to cover most indicators here, albeit low precision.

ANNEX 3: Planned Sample for Makeshift Enumeration Areas

Reporting Level	Governorate	Neighbourhoods Covered	Target Sample	Number of GPS Points
Strata 1 (Nuseirat)	Deir-al-alah	An Nuseirat	36	12
	Deir-al-alah	An Nuseirat, An Nuseirat Camp	36	12
	Deir-al-alah	An Nuseirat, An Nuseirat Camp, Zuwaida (north)	36	12
Strata 2 (DEB Coast)	Deir-al-alah	Ar Rasheed	36	12
	Deir-al-alah	Ar Rasheed, As Sahabah	36	12
	Deir-al-alah	As Salah, Ar Rasheed, As Sahabah	36	12
	Deir-al-alah	Al Bassa	36	12
	Deir-al-alah	Yafa, Al Bruk, Deir al Balah (south)	36	12
	Deir-al-alah	Deir Al Ballah (south)	36	12
	Deir-al-alah	Deir Al Ballah (south)	36	12
	Deir-al-alah	Al Qarara west	36	12
Strata 3 (DEB Central)	Deir-al-alah	Al Bassa, As Salam	36	12
	Deir-al-alah	Al Balad, Tal Az-Zuhour, Al Amal, Ar Rahmeh	36	12
	Deir-al-alah	Ansar, Amal, Tal Az-Zahour, Salah Ad Din	36	12
	Deir-al-alah	Al-Louh, Ja'âfarawi	36	12
	Deir-al-alah	As Samah, Ar Rasheed, Al Awda, As Siddeq	36	12
	Deir-al-alah	Deir Al Ballah (south), Al Birkeh,	36	12
Strata 4 (Khan Younis Coast)	Khan Younis	Al Mawasi	36	12
	Khan Younis	Al Mawasi	36	12
	Khan Younis	Al Mawasi	36	12
	Khan Younis	Al Mawasi	36	12
	Khan Younis	Al Mawasi	36	12
Strata 5 (Khan Younis Central)	Khan Younis	Al Mawasi	36	12
	Khan Younis	Al Jala'a	36	12
	Khan Younis	An Naser	36	12
	Khan Younis / Rafah	Al Mawasi (east), At Tahir	36	12
	Khan Younis	At Tahir	36	12
	Khan Younis	At Tahir	36	12
	Khan Younis	An Naser	36	12
	Khan Younis	Khan Younis Camp, City Centre, Bain As-Sameen	36	12
	Khan Younis	Al Amal, Al Kateebeh, Al Mahattah, and Northern half of Khan Younis Camp	36	12
	Khan Younis	At Tahir	36	12
	Khan Younis	At Tahir	36	12
Strata 6 (Al Muharrarat)	Rafah	Al Muharrarat	36	12
	Rafah	Al Muharrarat	36	12
Strata 7 (Eastern Khan Younis)	Khan Younis	Bani Suhaila, Ma'in, Bani Suheila (north), Bani Suheila (east), Bani Suheila (south)	36	12
	Khan Younis	Qizan Abu Rashwan, Rafah (north)	36	12
	Khan Younis	Al Fukhari	36	12
	Khan Younis	Jourat Al-Loot, Qizan An-Najjar, Al Manarah	36	12
			1,440 HH	480


WASH Cluster
State of Palestine